

CASE STUDY: SMAVA GMBH

The search engine results ranking of an advertisement in relation to its effectiveness

Abstract

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Title of publication CASE STUDY: SMAVA GMBH The search engine results ranking of an advertisement in relation to its effectiveness		
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<p>The purpose of this study was to understand if the case company should aim to have its advertisements in high positions on the search engine results page to improve the effectiveness of its advertisements.</p> <p>Research question: Is there a measurable connection between a search engine advertisement's position on the results page, and its effectiveness?</p> <p>The study was done as a quantitative case study, as the author saw it as the most applicable method to evaluate a measurable relationship between the two factors mentioned above. By comparing the findings of the previous studies on the subject, against the observations made during the case analysis, the author investigated whether the theories presented in the prior researches held right in the author's case.</p> <p>The findings suggest that clickthrough rates decrease with the position, which confirms the theory that most of the search engine users prefer clicking on the advertisements located at the top of the results page. However, contrary to the common notion, when comparing the position and the conversion rates, a more significant percentage of the people that clicked on the advertisement at the lower positions ended up converting. In the case company's case, conversion refers to a completed online loan application. Furthermore, the conversions and the costs of the case company's advertisements were heavily biased towards the highest positions of the search engine results page. Therefore, it would be challenging to get a similar volume of conversions in the lower positions. However, in order to avoid paying for clicks that won't result to value gained for the company, the case company should focus less on the clickthrough rates. Instead, the study results suggest that the case company should consider conversion rates and cost per conversion rates when determining the optimal ranking for a given advertisement.</p>		
Keywords Digital Marketing, performance marketing, search engine advertising		

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3 ABBREVIATIONS

Abbreviations Explanation:

CPC Cost per click, the total amount of costs divided by the number of clicks.

CTR The search engine user clicked clickthrough rate, the percentage of the times an advertisement out of the times an advertisement was shown (Google 2019k).

KPI Key performance indicator, a metric used to measure the performance of, i.e., an advertisement (Google 2019).

ROI Return on investment, a metric indicating how much revenue an investment returned, in comparison to the costs (Fiorillo 2019).

SEA Search engine advertising, advertising activities taking place on the search engine results page (Google 2019).

SERP Search engine results page, the webpage where the search engine lists website suggestions following a search query (Google 2019).

4 INTRODUCTION

Consumers' habit of purchasing products and services online is getting growingly common. In many cases, human interaction provided by the traditional brick and mortar stores when making a purchase is no longer seen as a requirement, as consumers enjoy the flexibility of online services available to them around the clock. Information needed to support a purchase decision can in many cases be found online as well (Shah, Roongta, Avadhani & Shah 2018). When looking for information online, most consumers use a search engine. Search engines are websites where the users enter search queries to retrieve specific information. In other words, the users indicate their intent by submitting a search query, thus letting the search engine know what they are looking for (Lewandowski 2017). The search engine then lists websites, by ranking them according to the estimated relevance to the user. The page on which the search engine lists the websites following the query is called the search engine results page or SERP. For advertisers, search engines offer a chance to target a specific audience. By paying the search engine to show an advertisement on the SERP whenever a user enters a search query, advertisers are capable of reaching the right consumers at the right time (Ryan & Jones 2009, 91).

The popularity of search engine advertising has exponentially grown since its initial introduction. As the demand for advertisement space on the most popular search engines has increased, the price for showing an advertisement has increased as well. The search engine determines the order in which it shows the advertisements on the SERP with an auction system. The auction system ranks the advertisements based on the price advertisers are willing to pay, and the past performance of the advertisements. The advertiser who is willing to pay the highest price to show an ad following a specific search query, and whose advertisement has performed well before, will be ranked at the top of the SERP.

4.1 Thesis Objective

This thesis aims to evaluate the relationship between the effectiveness of a given search engine advertisement, and how the search engine presents it to the user on the SERP. By analyzing a set of chosen search engine advertisements' ranking on the SERP, and their performance, this study aims to evaluate the connection between the two. Therefore, discussing whether paying a higher price to be positioned high in the SERP will result in better performing advertising.

4.2 Research Methodology

The motivation to approach the topic from a case study perspective came from the authors period of working in the case company as a marketing intern. By working in the marketing department, as a part of the performance marketing team, the author gained first hand -experience in the processes involved in the analysis and optimization of the search engine advertising campaigns. It also became apparent that the team responsible for the search engine advertising in the case company was always aiming at having their advertisements placed in the top positions of the relevant keyword auctions. With that, the author saw the case study as a suitable approach to challenge a common belief regarding the overwhelming effectiveness of having an advertisement rank number one on the SERP. By a case study's definition, the author's goal was to analyze and evaluate a phenomenon that has been referred to in prior studies, and possibly make findings that either contradict their theories or confirm them (Mills, Durepos & Wiebe 2010). Either way, the author aimed to make findings that could apply to not only the case company's but to other advertisers' strategies as well. (Eisenhardt 1989, 534-535.)

Quantitative research methods are based on the analysis of measurable, statistical information (Babbie 2010). The research method chosen for this study was quantitative, as it attempts to answer a narrow research question by analyzing a relatively large take of actual numerical data indicating the performance of the case company's search engine advertisements. The author saw the quantitative method as a fitting approach to find connections and contradictions between the theory presented in previous studies, and the case study presented in the thesis since the underlying phenomenon is measurable.

The data for the theoretical part was gathered from web-articles, previous studies, and books, whereas the case company provided the data for the empirical part of the research. The information provided by the case company was performance data extracted from a search engine advertising interface. The data showed daily changes in the performance of the case company's advertisements over 120 days. The data extracted from the interface provided the author with all of the metrics necessary to calculate the difference in the effectiveness of the advertisements in different positions. The metrics found in the data included the number of times each of the case company's advertisements had been shown on the SERP, how many times it had been clicked, and how many of the clicks had resulted into a conversion. Also, the daily average positions of the advertisements were included in the data set. The author

The performance is evaluated by looking into three metrics in comparison to the daily average positions of the case company's advertisements. Average position is the average of the ranks a given advertisement on the search engine results page.

4.3 Thesis Structure

In the theoretical part of the thesis, the author will introduce background information regarding the relevant topics. The author will discuss digital marketing, performance marketing, and search engine advertising. The background of the case company Smava, as well as the company providing the SEA platform, Google, will be discussed. The author will present the metrics that will be used to assess the performance of search engine advertisements. Moreover, the function of the keyword auctions on the search engine Google will be discussed in detail. Finally, previous research focused on the relation of search engine advertisement ranking, and advertisement performance will be presented.

In the empirical part of the research, the performance of chosen search engine advertisements will be analyzed together with their position in the keyword auctions. The three metrics introduced in the theoretical part of the thesis will be used to evaluate the performance of the advertisements. In the final section, the author will present the findings of the study, and conclude, whether there was a connection between the two factors as mentioned earlier. Finally, the author will recommend how to improve the performance of the given advertisements.

4.4 Limitations of the Research

This research focuses mainly on the relation between the position of the advertisements on the SERP and their performance. The case company aims to position its search engine advertisements in the top positions of the SERP. Therefore, the data available for ads located below the top four positions of the auctions is minimal. Due to this limitation set by the data provided by the case company, the analysis will focus only on the four highest positions on the SERP.

Moreover, several other factors could affect the outcome of the analysis but were left outside the scope of this study. Seasonality, such as public holidays affect consumer behavior. There were some public holidays during the period from which the data was provided. Even though there was an implication that the traffic, or the number of web browsers visiting a given website, was generally lower during the holidays, it is not known, whether these holidays affected the traffic equally among the different keywords. Another factor that could impact the results of this study is the value of a given customer. In reality, the value of the customer changes by the individual. However, because there is no previous research indicating a dependence between the advertisements rank and the value of the customer, this study assumes that all customers bring in the same value. The analysis of the competition was left outside of this analysis as well. Measures taken by the competition, such as a new search engine advertising strategy, or other promotional activities, could give them a competitive advantage and thus a

negative impact on the performance of the case company. Finally, the industry the case company operates in has its characteristics, which might affect the results of this study. Also, the case company operates within the German marketplace, whereas consumer behavior might differ between countries.

5 BACKGROUND

5.1 Digital Marketing

Digital marketing refers to any marketing efforts that include the use of an electric device. A common misconception is that digital marketing comprises only marketing activities taking place online, such as advertising on websites, or through email. Digital marketing considers advertising measures taken both online and offline. For instance, an advertisement sent through text messages, or an electronic display showing a commercial in a city, can be considered digital marketing as well as an ad shown on a website (Patel 2019). According to Statista (2019), the global revenue of digital advertising will amount to around 87,7 billion euros worldwide in 2019.

5.1.1 Performance-Based Marketing

Performance-based marketing, or performance marketing, is a term that refers to a type of digital marketing taking place online. For instance, advertising on a social media page, on a news website, or a search engine results page, is all considered performance marketing.

In performance marketing, the costs for the advertising occur after the desired action taken by the end user (Feng, Juan, Xie & Jinhong 2007). The desired actions taken by the consumer will be referred to as conversions. A conversion could be a consumed piece of content, sharing of personal information, or a purchase made on the advertiser's website (Dvir & Gafni 2018). In any case, the conversion is a defined behavioral outcome that the advertising company is attempting to guide the visitor towards (Ferenzi 2019).

The digital platforms offering performance marketing solutions to advertisers, allow the advertisers to see how their marketing efforts are performing. A unique advantage of performance marketing over traditional marketing channels such as radio, or print advertising is that the ratio between costs and revenue can be calculated on a highly specific level. Many performance marketing channels allow the advertiser to track the movements of its customer, thus providing the marketing manager with data implicating how the end user interacted with their advertisement, and what were their actions afterward. (Lewis & Reiley 2014.) Furthermore, these platforms allow the marketer to take the insights they have gained through the data provided and adjust their strategy in real time. For example, an advertiser can calculate the average value of a conversion taking place through a advertisement, on a particular marketing channel. By also having the information of the total cost per the advertisement, he or she can then calculate the maximum amount he or she is willing to pay for a single conversion to stay profitable and adjust the strategy of the advertisement accordingly. (Ryan et al. 2009, 92). The

shift towards data-driven marketing solutions has taken the concept of marketing from being a somewhat abstract issue to a measurable source of revenue. Before the explosion of search engines, social media networks, mobile device usage among consumers, advertisers relied heavily on estimations. For instance, one could have never calculated the exact impact a traditional print campaign had had over their overall returns. Whereas with performance marketing platforms, the effect of the campaigns can be calculated by the advertiser with reliable accuracy. (Ghose & Todri.) Finally, the immense amount of data provided by these marketing platforms allow advertisers to target their marketing to specific niche audiences around the world. Also, the costs of reaching the right people are only a fraction of the cost that it took to achieve a similar audience via traditional channels in the past. These factors have made performance marketing a very lucrative source of revenue for companies over the past years. (The PMA, 2018.)

5.1.2 Search Engine Advertising (SEA)

SEA is a term that refers to performance marketing activities taking place on a search engine platform. Given, that the advertisement meets the criteria set by the search engine platform, it will eventually be shown by the search engine to the user. The search engine presents the advertisements on the search engine results page (SERP), among the organic search results retrieved by the search engine algorithm. In addition to the search queries made by the users, the advertisers can target their ads to users based on numerous other factors, such as the search history of the user, the demographic information of the user, as well as the geographic location of the user. (Haveliwala, Jeh & Kamvar 2005.) The advertiser can also retrieve data, indicating how the search engine users interacted with his or her advertisement, to assess the performance of the given ad (Kumar, Chattaraman, Neghina, Skiera, Aksoy, Buoye & Henseler 2013). Currently, the biggest search engine platforms in Germany are Google, Bing, Yahoo!, and DuckDuckGo. Table 1 shows, that Google holds the overwhelming majority of the market, with 90,22% of all submitted searches on desktop, and 98,55% on mobile. The second most significant competitor is Bing with 6,03% of the market on Desktop, and 0,50% on mobile. The third largest competitor is Yahoo! with 1,27% of the market on the desktop, and 0,49% on mobile. The fourth largest competitor is DuckDuckGo, with 0,67% of the total market on desktop, and 0,32% on mobile. (Statcounter 2019a.) (Statcounter 2019b.)

Table 1 Search engine's market share in Germany (Statista 2019)

Search Engine	Computer	Mobile
Google	90,22%	98,55%
Bing	6,03%	0,50%
Yahoo!	1,27%	0,49%
DuckDuckGo	0,67%	0,32%

According to Statista (2019), the revenue gained from search advertising in 2019 will amount to around €3,02 billion in Germany. The market is projected to grow 1,8% yearly, until the year 2023. In comparison to social media advertising, the search engine advertising market is currently about 58,7% larger. Although, social media advertising is growing in a much higher phase as it has not yet matured. Despite the marginal growth rate, search engine advertising remains a vital part of digital marketing and shows a lot of potential due to the introduction of new technologies that advertisers can use to improve their results. For instance, Google has already introduced machine learning as a tool for advertisers to achieve better performance for their advertisements. (Google 2019g.)

5.2 Smava GmbH

Smava GmbH is a financial technology (fintech) company based in Germany's capital Berlin. It was founded in 2007, by Alexander Artopé and Eckart Vierkant as a digital marketplace, where private people could seek funding from private investors, without having to consolidate with banks. The focus of the company has since shifted to connecting private people with affordable loans offered by banks.

The screenshot shows the Smava website interface. At the top left is the Smava logo with the tagline 'Der Kredit ist da.' and a phone number '0800 070 06 20'. A navigation bar includes links for 'KREDITVERGLEICH', 'KREDIT', 'PRIVATKREDIT', 'AUTOKREDIT', 'UMSCHULDUNG', and 'RELD ANLEGEN'. The main content area is titled 'Deutschlands günstigste Top Kredite' and includes a form for 'Verwendung', 'Nettokreditbetrag' (10.000 €), and 'Laufzeit' (84 Monate). A green badge indicates a '-0,4%' (ETW, Jahreszins) advantage. Below the form, there are logos for partner banks: TUV, ING, and DKB. At the bottom, a three-step process is outlined: 1. Kostenlose Kreditanfrage, 2. Angebote erhalten, and 3. Kreditantrag abschließen.

Figure 6 smava.de landing page on 03.03.2019

5.2.1 Product of Smava

Smava's product is an online credit comparison portal, where it lists private loans to the user, offered by its partner banks. The customized loan offers base on the type of loan they are seeking, as well as their personal information. The offers are calculated by an algorithm, that factors in information regarding, for example, his or her financial status, work status, and living expenses. The data is collected by a digital form, which is filled by the visitor. This form consists of several steps, with the loan offer page being the final one. Together the steps make up for a process called the sales funnel. To its partner banks, Smava offers a service of finding the private people, that are theoretically eligible to receive a loan from them. The users, who do not meet the criteria set by the banks, will not be offered a loan. Smava's revenue comes from the fixed commission it receives from the partner banks, whenever a user takes a loan.

5.2.2 Marketing Department at Smava

To drive traffic to its website, Smava uses a wide range of marketing channels, such as search engines, display, and email marketing, as well as more traditional channels such as TV -advertising. Smava has its database, where it stores information about its customers and website visitors. This data is utilized to analyze the performance of the company's marketing channels and to further make decisions on the distribution of capital among the channels in the future. Smava has multiple performance marketing channels at its disposal. These channels include both search- and display marketing. The channels through which the highest amount of traffic is directed, are Google and Facebook. However, display marketing is outside the perimeters of this research. Therefore, the focus of this study will be exclusively on Google, which is the biggest SEA platform for Smava.

5.3 Google

5.3.1 Google (Alphabet) as a Company

Alphabet is a multinational tech company, and the parent company of the search engine Google. Alphabet was established in 2015 during the reconstruction process of Google's company structure. Initially, Google was founded in 1998 by Larry Page and Sergey Brin. Google has since grown to be the most visited website in the world, as well as the most used search engine in the word. The tech giant makes the lion share of its profit from advertising. For

instance, in 2018 Google acquired 85% of its revenue from advertising activities. (Google 2019.)

5.3.2 Organic Search Results

For a company to show up on Google's search engine results page, it has two options. One is through organic search and the other one through paid search. Organic search results are websites containing information that Google considers as relevant to the search engine user. To retrieve the information that the search engine user is looking for, Google has to be aware of the websites available online. To have the information of the existing websites, and to stay updated on their content, Google uses a continuous, algorithm-based process called "crawling." Crawling refers to a process, where a program called Googlebot goes through websites, storing all the website-links it can find. Furthermore, Googlebot will often revisit the sites it has already crawled to keep updated on changes made on the websites and to find links to new websites. When Googlebot goes through the websites, it also analyses the content of them. The information of the words on the website, as well as the information of pages where the words are located, are stored among the website links, into a colossal Google index.

When a search engine user then submits a search query, Google will refer to this index and suggest a list of websites it ranks as relevant to the user. To point out the relevant websites, out of the billions of websites stored in the index, Google compares the search query of the user to the websites' content. If the words used in the search query appear on the title of a website, as well as in the text, that website will more likely rank higher on the search engine results page (SERP). (Google 2019.) Below is an image of organic search results provided by Google, for the search query "hotel reservation" (Figure 2.)

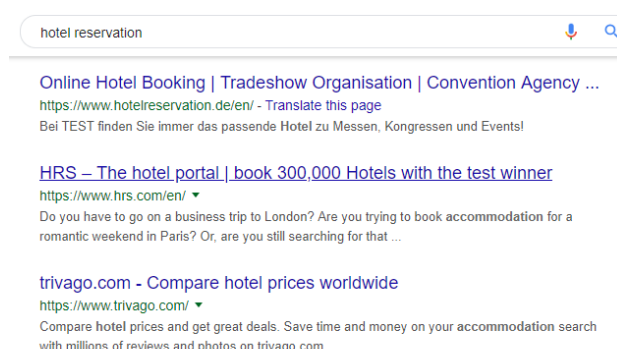


Figure 7 Google organic search results for query "hotel reservation" (04.05.2019)

5.3.3 Paid Search Results

The second way for a company to get ranked on the SERP is through sponsored results. Google allows advertisers to place a sponsored search result to follow a search query, by placing a bid on a particular keyword. Google shows a chosen set of these sponsored results along with the organic results on the SERP, placing them above or below the organic results (Ghose & Yang 2009). Similarly, to the organic results, the sponsored results that end up being listed by Google on the SERP, have to meet specific criteria set by Google. According to Ghose et al. (2010) Having both organic results and sponsored results showing up high on the SERP will have a positive effect on the campaign performance. Below is an image showing paid results, or search engine advertisements on Google SERP for the query "hotel reservation" (Figure 3.)

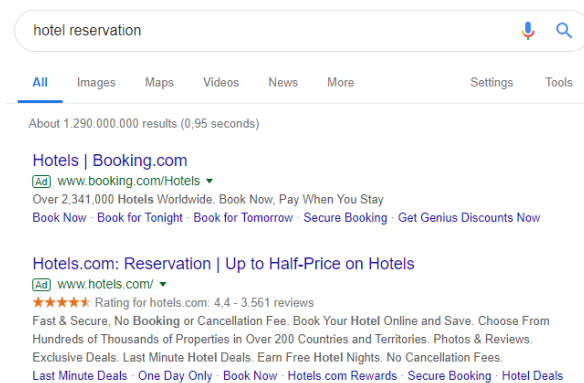


Figure 8 Paid search results on Google for the search query "hotel reservation" on 04.05.2019

5.4 Google Ads

Google's platform for advertisers to run their SEA activities on is called Google Ads. On Google Ads, the advertiser can create advertisements, and target them towards specific audiences. Advertisers can list words that they see as relevant to the offering of their companies. These listed words are called keywords, and they will activate the advertisement of the company when a search engine user enters a query that matches the keyword.

Furthermore, the advertisers can narrow down their target audience by limiting the age, location, and language of the search engine users to whom the advertisements are shown. The advertisers can also adjust the time window in which their advertisement can be displayed. The advertiser can, for instance, choose a time of day when the ad will be shown to search engine users. Also, the frequency in which Google serves the advertisement is adjustable. Moreover, the advertiser can decide on which devices Google shows its advertisements. For instance, if an advertiser is attempting to promote a mobile application, he or she might focus the advertising efforts entirely on search engine users on mobile devices.

5.4.1 Key Performance Indicators (KPI) Provided by Google Ads

On the interface of Google Ads, there is a vast amount of metrics at the user's disposal. These metrics range from simple figures, such as the amount of traffic recorded for a single keyword at a specific time, to more complex calculations such as traffic estimations which predicts how many people could potentially be visiting the advertiser's website. Below in Figure 4 the Google Ads interface shows metrics used to evaluate the performance of the keywords for, with a day-of-week -segmentation applied. The advertiser can extract all this data from the interface to create databases, reports, and views for analysis- and decision-making purposes.

5.4.2 Impressions, clicks, and clickthrough rate (CTR)

An impression is a metric representing the number of times the search engine served a given

<input type="checkbox"/> ● Keyword ↑	Status	Max. CPC	Impr.	Clicks	Cost	Avg. pos.
<input type="checkbox"/> ●	Eligible		25,909	2,227	€4,517.90	3.0
Sunday			3,868	361	€674.33	3.1
Monday			4,562	386	€807.71	2.9
Tuesday			4,100	355	€740.21	2.8
Wednesday			3,746	358	€743.30	2.8

Figure 4 Keyword performance with a day-of-week segmentation applied, on Google Ads (Google 2019d)

advertisement to an individual user on the search engine results page. In other words, the number of possibilities for the ad to be clicked by the end user. (Brooks.) The number of occurrences when a person clicked on the advertisement, is shown in the Clicks-column. Click-through rate, or CTR, on the other hand, is the percentage of the impressions that resulted in a click. For instance, if an advertisement had 100 impressions, and 5 of those impressions resulted in a click, the advertisement had a CTR of 5%. (Google 2019k.)

The formula to calculate CTR is as follows: $\text{Clickthrough rate (\%)} = \frac{\text{Sum of Clicks}}{\text{Sum of Impressions}}$. According to Google (2019k), CTR is a metric that implies, whether the search engine users are finding the given advertisement appealing.

5.5 Keyword Auctions and Ad Rank

The pricing model for search engine advertising is called a pay-per-click -model. With this model implemented, the costs for the advertisers incur when search engine users click on their advertisement. As mentioned in the first section of the thesis, the advertisers set the maximum amount they are willing to pay for a click on the given keyword. The amount of this bid, together

with the past performance of the advertisement will determine the position of the advertisement on the search engine results page. The process of ranking all the advertisers who set a bid for the given keyword is called a keyword auction. These auctions, controlled by the search engine, take place in real time whenever a visitor enters a query on a search engine. If the amount of the bid set by the advertiser surpasses the bid of the competitors on that query, and if the advertisements historical performance as well, his/her advertisement will be ranked above the competition. Next, the factors determining the quality of the ad will be discussed. (Google 2019.)

5.5.1 Quality Score

Quality score is a rating system created by Google to evaluate the ads created by the advertisers. It is a scoring system ranging from 1 to 10, in ascending order. The importance of this scoring is considerable, as it will significantly impact the price an advertiser will have to pay for positioning their advertisement at the top of the search results page. The score for an advertisement is determined based on three data points:

1. Expected clickthrough rate
2. Ad Relevancy
3. Landing page experience

Google rates each of these data points with a 3-category system: below average, average, and above average. These estimations are made based on the historical performance of the given keyword, giving the advertiser an initiative to improve the quality of the ad, as well as the landing page behind it. It also works to better the user experience of the visitor by disadvantaging ads that Google's algorithm does not rate as relevant to the given search query (Google 2019e).

5.5.2 Ad Rank

Ad Rank defines the position of each ad on the search results page. The higher the Ad Rank, the higher up the ad will be on the page. Ad rank is calculated by multiplying the maximum bid with the quality score of the ad, or $\text{quality score} \times \text{maximum bid} = \text{ad rank}$ (Kim 2013.)

5.5.3 Bid

A maximum bid is the amount of money the advertiser is willing to pay for a single click in the given auction. The actual bid, meaning the amount of money that the advertiser ends up paying for a click, often differs from the maximum CPC. With that, the maximum bid is logically only a price ceiling set by the advertiser. (Google 2019.) The actual bid is determined by a set

of factors, as we will find out in the demonstration below. This visualization also showcases the importance of the Quality Score.

Table 2 below showcases how Google determines the actual cost for a click, as well as how it decides the ranking on the SERP. The table shows that if the quality score of an advertisement is low, the competitor will not gain the first position on the SERP, even if he or she had set the highest bid for the auction.

Table 2 Visualization of a keyword auction

Advertisers	Bid	Quality Score	Ad Rank	Position	CPC
Competitor 1	4.00 €	8	32	1	3,76 €
Competitor 3	3.00 €	10	30	2	2,71 €
Competitor 5	9.00 €	3	27	3	8,34 €
Competitor 2	5.00 €	5	25	4	4,81 €
Competitor 4	6.00 €	4	24	5	

5.5.4 Advertiser's Incentive to Bid High in the Keyword Auctions

Studies show that there is a strong correlation between the traffic lost and gained, and the position of the search advertisement. (Agarwal, Hosanagar & Smith 2011) (Ghose et al. 2009.)

According to Advanced Web Ranking, the click-through-rate on a search done on desktop drops on average 48,99% when moved from position 1 to position 2, and another 34,23% when moved from position 2 to position 3. On Mobile dropping from 1 to 2 in position decreases the CTR by 38,42%, whereas going from position 2 to 3 will decrease CTR by another 32,50%. (advancedwebranking 2019.)

With that, in terms of clickability, it is generally speaking vital to aim for the first position on the SERP (Agarwal et al. 2011). This relationship between traffic volume and the position justifies the continuous pursue the highest possible position in the auctions. As mentioned earlier, the bidding auction system developed by service providers such as Google, determine how the advertisers are positioned on the results pages. These systems eventually promote advertisers to bid higher, to improve their targeting, and to better the quality of their landing page, by rewarding the ones that do so with a higher position. Google's incentive to promote high bids is clear, given that they derive most of their revenue from sold advertising space. The counterforce in the gravitation towards the number one position is the increasing costs, which in turn pushes the advertiser to lower the CPC bid to increase cost efficiency. The higher volume of traffic can also have a detrimental effect on the profitability of the campaign. The additional users ending up on the website due to the higher position might not have a high interest in the

offering of the company. The higher number of visitors, with no notable intent, could increase the clickthrough rate, while on the other hand increase the portion of traffic leaving the website before conversion. Because the costs for SEA come from the number of clicks on the advertiser's ad, this would increase the advertiser's costs, while his or her sales volume would be left without a big enough increase to achieve a positive ROI.

5.6 Anatomy of a Text Ad

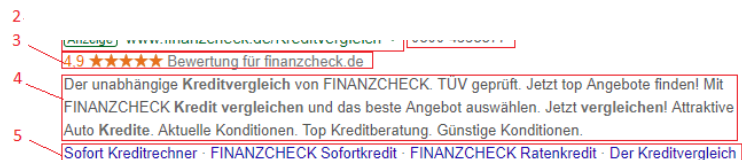
To better understand the SEA concept, the structure of the actual advertisements should be discussed. It is noteworthy that the appearance of the so-called text advertisements may differ, depending on which device the search engine user is conducting the search. For example, when the visitor is using a mobile device, some of the components of the text ads listed below might not be visible. Figure 5 below, presents the different components included in Google's text ads.

- 1) Headlines
- 2) Display URL
- 3) Review Extension
- 4) Descriptions
- 5) Sitelink Extensions
- 6) Call Extensions

The most visible parts of the text ad are the headlines. Google allows the advertisers to have

three headlines, with each of them having the maximum space of 30 characters. According to Google (2019h), the headline should match with the keyword or words the advertisement connects to, to optimize performance. Display URL is below the headlines, and it shows the website address, where the search engine user will be directed to if a search engine user clicks the link. However, the URL address shown in the advertisement can be modified without changing the actual website address of the link. To the left of the Display URL, there is a text implicating to the search engine user that the result is, in fact, an advertisement. The description is used to give more information regarding the content offered on the website. Google allows the advertiser to include two description fields, with a limit of 90 characters per field. Above, as well as underneath the description fields, there are extensions. Above the descriptions, there is the review extension. According to Google (2019b) review extension shows business reviews, collected from trusted websites by Google. The rating is shown as stars,

Figure 9 finanzcheck.de's text advertisement for a search query "kreditvergleich" 12.03.2019



and numbers, at a scale from one to five. The review extension will only be shown when the company has been reviewed more than a hundred times in the given country, and when the rating surpasses 3,5 stars. Another extension shown in the advertisement below is site link extension, located underneath the description fields. Sitelink extensions allow the advertiser to include additional links on the advertisement. These links can be used to guide the search engine user to different web pages. The final component of the example advertisement is the call extension. Google allows the advertisers to add a phone number into the text ad, to increase customer engagement. When using a mobile device to search, the user can click on the phone number and directly call the advertising company, to place an order for instance. (Google 2019f.)

5.7 Keyword Match Types

There are three different match types for keywords on Google Ads: Exact, Phrase, and Broad (Agarwal et al. 2011). The difference between these match types is the way they serve the advertisement for the users' search results page.

Exact is a match type that serves an ad on the search result page when the search query made by the end user is the same or a close variant of the keyword. In SEA, the keywords under the exact match type give the marketer the most control over the keywords, because the advertiser knows which queries will activate the ad. Unlike on other match types, there are only small variations in the queries that trigger advertisements linked to an exact keyword. Therefore, there is a significantly lower chance of showing the advertisement to a visitor that is not looking for something regarding the service provided by the company. Narrowing down on the possible intent of the search engine user, the advertiser can calculate with much more confidence the exact amount of capital he or she can pay for a click while maintaining a positive return on investment.

The phrase is a keyword that triggers the ad whenever the search query contains the phrase in it. The amount of impressions is a lot higher compared to the exact keywords, as there are more instances when Google could serve the ad.

Ads linked to a broad match type keyword, are served by Google whenever at least one of the words matches with the search query of the visitor. Keywords under this match type usually have the lowest performance of the match types, because even visitors with a very different need from the company's service might end up having an ad shown to them. (Google 2019.)

The importance of loose match type keywords

As mentioned earlier, the exact keywords give the advertisers more control as it allows the advertiser to calculate a specific value for a single click. However, the looser match types are still of great importance as they are a way to learn about the needs of the customer and to scout for search queries that can be used to connect with the right end users.

5.8 Conversion, Conversion Rate, and Cost per Conversion

5.8.1 Conversion

As previously mentioned, the conversion is the desired action, predetermined by the advertiser, and taken by the consumer. Google offers advertisers a solution to measure the number of conversions per advertisement, by tracking the actions taken by the search engine users after they have clicked on a given advertisement. The tracking solution for the case company's purpose works as follows. First, the advertiser sets up the conversion tracking by applying a small snippet of code, or a tag, to the webpage where the conversions are supposed to take place. Second, when a search engine user clicks on the company's advertisement, Google will place a cookie on his or her device to recognize the user later. Third, if the person who clicked on the advertisement happens to convert, the code snippet added on to the advertiser's webpage previously, will recognize the visitor, based on the cookie placed on his or her device. With that, the conversion attributed to the given advertisement. For the case company Smava, the conversion is a completed loan application on the company website. (Google 2019c.)

5.8.2 Conversion Rate

Conversion rate measures, whether the people that click on the advertisement, ended up taking the desired action defined by the advertiser. The formula for calculating the conversion rate is as follows: $\text{total conversions} / \text{total clicks} = \text{conversion rate (\%)}$. Conversion rate is a metric that can be used to determine if the advertisement is being targeted to the right audience. In a case, where the CTR is high, but the conversion rate low, the advertisement might not be providing the search engine, user, enough information about the content of the underlying website. Conversion rate can also be used to evaluate the quality of the company website. A low-quality website could result in visitors leaving the website before converting, and thus contribute to a lower conversion rate. (Google 2019j.)

5.8.3 Cost per Conversion

If the advertiser knows the value of a conversion, he or she can use the cost per conversion to calculate, whether the advertisement is profitable. For instance, if the estimated value of a conversion is 200 euros, the advertiser knows that to stay profitable, the cost per conversion cannot surpass 200 euros. (Google 2019.)

5.9 Attribution Models

An attribution model is a logic that defines how a conversion is credited among the different touchpoints that the customer had leading up to the conversion (Moldvay 2019). Touchpoint is a term that refers to potential customer's interaction with one of the advertiser's marketing channels.

For instance, a social media user clicks on an advertisement to visit a company's website but does not end up purchasing anything. When the same person later sees an advertisement on Google SERP, she revisits the website and ends up completing a purchase. This customer journey described above had two touch points with the company, before conversion. How each of those channels would be credited depends on the attribution model the advertising company was implementing. (Google 2019i.) Table 3 below, explains the different attribution models applicable to Google Ads.

Table 3 Attribution models applicable to Google Ads (Google 2019a)

Last Interaction	The last interaction model attributes all credit to the final touchpoint leading up to a conversion
Last Non-direct Click:	The last click model attributes all credit to the final touchpoint leading up to the conversion but ignores the direct visit to the website.
First Click:	The first click model attributes all credit to the first touchpoint leading up to the conversion.
Last Google Ads Click	The last Google Ads click attribution model attributes all credit to the final click on a Google search advertisement leading up to the conversion
Linear Model:	The linear model divides credit equally between all of the touchpoints throughout the visitor's journey through the funnel.

Time-Based:	The amount of credit a touchpoint gets depends on the time between the touchpoint and the conversion, in comparison to other touchpoints. The sooner the conversion happens after a given touchpoint, the more credit that touchpoint earns.
Position Based:	U-Model focuses on the first and the last touchpoints

6 CASE STUDY

6.1 Introduction

This case study focuses on analyzing and evaluating the possible connection between the performance of the search engine advertisements of the case company, and their performance. Furthermore, the study discusses, whether the theory presented in previous studies focused on the same topic manifest themselves in the case company. For the study, the author has extracted data from the case company's Google Ads account on the daily performance of hundreds of individual keywords from 120 days. This data included the daily numbers of impressions, clicks, and conversions, as well as the average positions of the keywords. These metrics were then used to calculate the average overall clickthrough rate (CTR), conversion rate, and cost per conversion, by the position on the SERP. Furthermore, as consumer behavior differs between the devices being used by the consumers, the analysis was divided between Computer-, and Mobile -devices.

Because the amount of traffic among the different positions differed significantly, the author decided to analyze how the costs and the conversions are distributed among the positions. This was done by aggregating the overall amount of costs and conversions over 120 days and calculating the percentages recorded in each position.

6.2 Keywords Being Analyzed

For the analysis, the author decided to use keywords of only the exact match type. The exact match type was seen by the author as the most practical one for the analysis, as it activates keywords for auction exclusively when the intent of the query matches the keyword. According to Vallalobos (2018), exact keywords will be enabled for the keyword auction in any of the following situations:

1. The query entered by the search engine user is the same as the keyword, if the implied words are within the query,
2. if the query implies the keyword in different words
3. or if the query shows the same intent as the keyword.

Below, Figure 6 presents an example of different queries that could activate an exact keyword "Yosemite camping."

Keyword	Query	Why it matched
yosemite camping	yosemite national park ca camping	Implied words
	yosemite campground	Paraphrase
	campsites in yosemite	Same intent

Figure 10 Examples of new queries that may match with “Yosemite camping” (Vallalobos 2018)

By using only exact keywords for the analysis of this study, the author is capable of significantly limiting the variation between the search queries that the keyword responded to, which minimizes the detrimental effect on the performance of the advertisements that the differing intent of the users could have. Furthermore, the author limited the keywords being analyzed to ones that had attributed to at least one conversion within the period. This was done to avoid unnecessary distortion brought on by non-performing keywords. A keyword that has no conversions, even if it has been offered in the search engine results page, will only drag the overall average values down, without providing any valuable insights. With this limitation, the keywords being analyzed ended up differing between devices. The number of keywords included in the analysis total to 864 individual keywords for computer, and 1160 keywords for mobile devices.

6.3 Clickthrough Rate (CTR) and Position

6.3.1 Computer

A prior study on the relation between clickthrough rates and ad position suggests that CTR diminishes as the position of the advertisement goes down. In other words, people tend to click on the first link more often than the ones below. (Ghose et al. 2009.) According to Agarwal et al. (2011), this is an implication that the search engine users trust the search engines' ability to find the information they are looking for and placing the best option in the number one position. Similar to the prior studies, the case company's SEA account implicates that the CTR does go down when moving down from position one. The table below shows the change percentages in the clickthrough rates in comparison to the value in the position above. The most significant decrease seems to take place when moving from position three to four.

Table 4 CTR change by position on Computer

Position	CTR	Conv. rate	Cost / conv.
1	0.00%	0.00%	0.00%
2	-16.22%	-25.14%	6.29%
3	-17.23%	5.13%	-13.22%
4	-31.41%	10.59%	-11.11%

6.3.2 Mobile

When analyzing the performance of the advertisements on the mobile device, the theory of the previous studies also applied as well. Similar to the trend on the computer, the average CTR among the exact analyzed keywords dropped, when decreased from position one to two, and continued to decline in positions three and four. As the table below shows, the most significant drop on CTR took place on position two, when comparing to position one with a decrease of 41,14%.

Table 5 CTR change by position on Mobile

Position	CTR	Conv. rate	Cost / conv.
1	0.00%	0.00%	0.00%
2	-41.14%	-19.79%	3.77%
3	-12.05%	36.32%	-15.94%
4	-37.30%	-28.17%	6.93%

6.4 Conversion Rate and Position

6.4.1 Computer

The studies conducted before had contradictory results about the relationship between the position and the conversion rate. Agarwal et al. (2011) claim that conversion rate increases when moving down in position, as opposed to Ghose et al. (2009) who claimed that conversion rate is higher in the higher rank and decreases when going down on the SERP. The table below shows that the conversion rate drops from position one to two but increases slightly in position three while continuing to grow in position four. Although the results here are not identical to the trends recorded by Agarwal et al. (2011), the findings here are more in favor of their theory. Given that the most substantial portion of the traffic used for the analysis was recorded for position two, the reason for the drop in the second position could be a result of clicks done by users who were looking for information rather than to purchase service.

Table 6 Conversion rate change by position on Computer

Position	CTR	Conv. rate	Cost / conv.
1	0.00%	0.00%	0.00%
2	-16.22%	-25.14%	6.29%
3	-17.23%	5.13%	-13.22%
4	-31.41%	10.59%	-11.11%

6.4.2 Mobile

As shown in Table 4, on mobile, the conversion rate is lower in position two, increases in positions three, but decreases again in position four. The findings go against the theories set by both Agarwal et al. (2011) and Ghose et al. (2009). The overwhelmingly good performance of the advertisements placed in position three is the reason behind the significant drop in the conversion rate between positions three and four. This result indicates that the search engine users who scroll down from the first results but click on the third option are much more likely to convert.

Table 7 Conversion rate change by position on Mobile

Position	CTR	Conv. rate	Cost / Conv.
1	0.00%	0.00%	0.00%
2	-41.14%	-19.79%	3.77%
3	-12.05%	36.32%	-15.94%
4	-37.30%	-28.17%	6.93%

6.5 Cost of Conversion and Position

6.5.1 Computer

As shown in Table 8, on the computer, the cost per conversion was higher in the second position in comparison to the first position. However, on the third and fourth positions, the cost for a single conversion decreased sharply. Based on all three KPI's, position three looks the most promising for the advertisements. This is because in position three, the conversion rate increases, whereas the cost per conversion decreases the most. On the other hand, the CTR drops less in position three than in position four, which makes position three the best option. The significantly decreasing CTR in position four could be an implication that most search engine users consider only the first three links on the search engine results page which

Table 8 Cost per conversion change by position on Computer

Position	CTR	Conv. rate	Cost / Conv.
1	0.00%	0.00%	0.00%
2	-16.22%	-25.14%	6.29%
3	-17.23%	5.13%	-13.22%
4	-31.41%	10.59%	-11.11%

6.5.2 Mobile

Table 9 shows, that on a Mobile device, the cost per conversion slightly decreased when comparing position two to position one. Similar to the computer, there was a significant drop in the cost per conversion rate between positions two and three. Based on the conversion rate, and cost per conversion rate, position three looks lucrative for the Mobile advertisements. Position four, however, doesn't look as promising, as the rate of the cost increased again between positions three and four. Although, lack of data might be the reason behind the increase. In other words, if the majority of the costs go towards higher positions, as most people tend to click on the first results on the SERP, then the lower positions are left with only a handful of data points. Having too little data available for the lower position leaves rooms for misrepresentative conversion rates on the overall table.

Table 9 Cost per conversion change by position on Mobile

Position	CTR	Conv. rate	Cost / Conv.
1	0.00%	0.00%	0.00%
2	-41.14%	-19.79%	3.77%
3	-12.05%	36.32%	-15.94%
4	-37.30%	-28.17%	6.93%

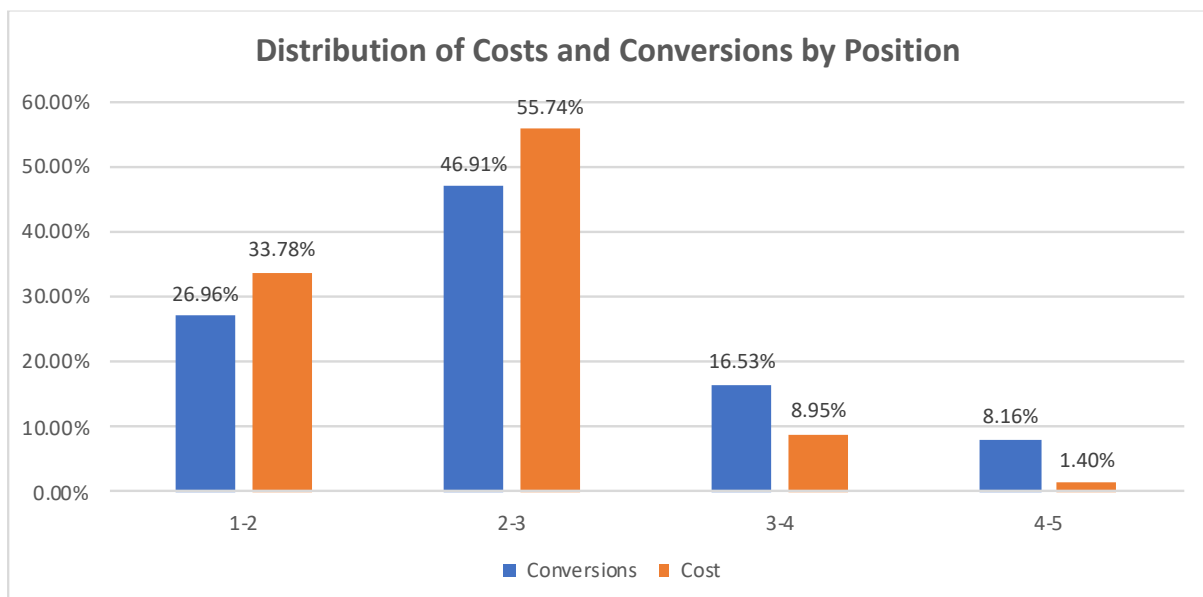
6.6 Distribution of Costs and Conversions

The author saw as of importance to analyze the matter in which the costs and conversions divided among the different position. If the number of conversions is heavily focused on a single position, looking exclusively at the conversion rates might lead to misunderstandings.

6.6.1 Computer

The diagram below (Table 10) showcases the distribution of costs and conversions by position on computer devices. The blue diagrams represent the conversions, and the orange one the costs. The numbers placed above the diagrams represent the percentage of the total costs and conversions across all positions. The table shows that both the costs and conversions are heavily biased towards the first two positions on the search engine results page (SERP). The diagram indicates that position two accounts for 55,74% of the overall costs and 46,91% of the conversions. The second biggest contributor is position one with 33,78% of the costs and 26,96% of the conversions being accounted for the top position. The percentage of the two lower positions three and four are significantly lower in comparison to the top positions. Position three accounts for 16,53% of the total conversions, and only 8,95% of the total costs, whereas position four accounts for 8,16% of the total conversions and 1,40% of the costs. The diagram shows that the ratio between the percentage of conversions in comparison to the percentage of costs is positive on the lower positions, whereas in the top positions the situation is the opposite.

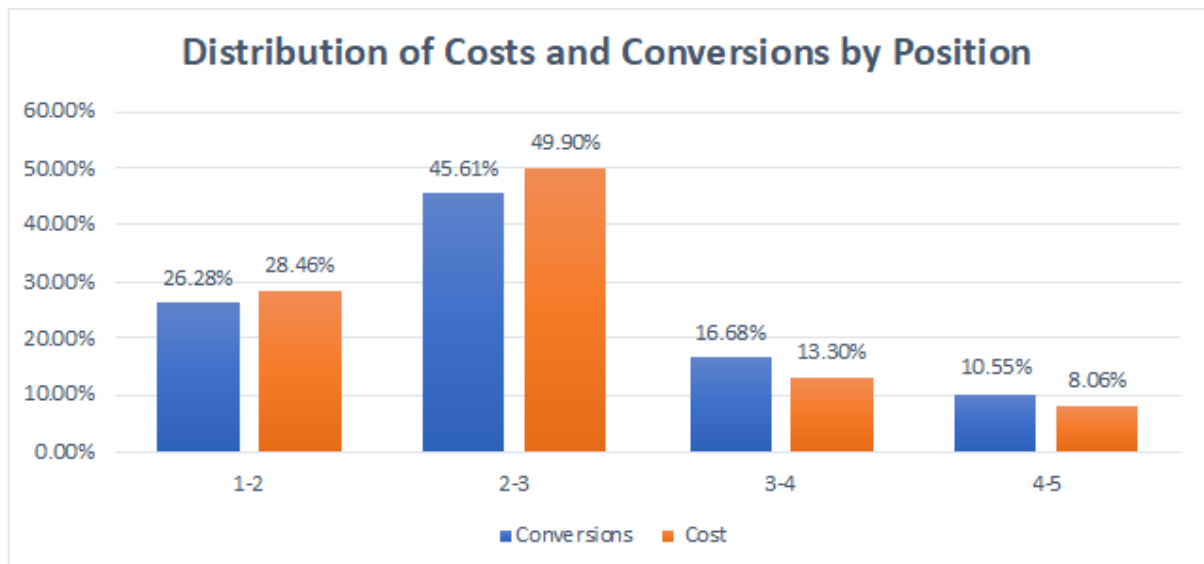
Table 10 Distribution of conversions and costs by position on computer



6.6.2 Mobile

On mobile devices, Table 11 shows a similar trend. The majority of the costs and conversions come from advertisements in the second position, with the percentage of costs being 2,29% higher in comparison to the conversions. The second most significant position as far as costs and conversions distribution is the first place, with a similar difference between the costs and the conversions. The third and the fourth positions brought in much fewer costs and conversions. However, in the lower positions, the difference between costs and conversion percentages is opposite to the ones in the higher positions. The percentage of conversions is higher in comparison to the percentage of costs.

Table 11 Distribution of conversions and costs by position on mobile



6.7 Results

As common knowledge has it, the clickthrough rate decrease when the ad is dropped down on the position. This took place on both computer and mobile devices. As the prior studies by Argawal et al. (2011) indicated, the conversion rate increased in the lower positions. Meaning, that more of the clicks that happened when the advertisement was located in positions three or four on the search engine results page, resulted in a conversion. However, on both devices that were analyzed, the conversion rate decreased in position two. Surprisingly, the cost per conversion ratio increase in position two compared to the first position. However, the cost for a single conversion sharply fell when moved to position three and continued to fall when moved further down in the rank. The distribution of conversions and costs among the positions is highly biased towards the two highest positions on the SERP. However, the ratio between the conversions and costs were negative on the top two positions, whereas in positions three and four the percentage of conversions surpassed the percentage of costs attributed to each position. The highly uneven distribution of costs and conversions could be the reason behind the increase of the cost per conversion in position two, as it is the position with the highest amount of costs and conversions. However, it would require further research to clarify this.

7 CONCLUSIONS

This study aimed to analyze and evaluate a possible connection between the search engine advertisement's position on the search engine results page, and its efficiency.

It is a common understanding among advertisers that most of the search engine users click on the first advertisement presented on the search engine results page. Therefore, most advertisers have aimed to have their advertisement in the top position of the SERP to gain the most considerable amount of traffic. Because the auction system run by the search engine determines the ranking of the search engine results page, the highest position of the SERP is also the most expensive for the advertiser. Previous studies have challenged the notion that the highest position is the best for the ad's performance, by calculating the relationship between the advertisement's position with other performance metrics, such as conversion rate and profitability. These studies found that the percentage out of the clicks that ends up placing an order from the company increases in the lower positions. Because the price for placing an advertisement in the lower positions is significantly lower compared to the number one position, these studies claim that having an ad positioned in the lower positions is, in fact, more profitable.

In this study, the performance of the advertisements was measured using three key performance indicators: clickthrough rate (CTR), conversion rate, and cost per conversion. The performance of the different positions on the search engine results page was evaluated by analyzing the changes in the KPI as mentioned earlier between different positions. The analysis was divided into computer and mobile devices.

On computer devices, the CTR dropped when moving down from position one. The conversion rate also dropped between positions one and two but increased on the lower positions. The cost per conversion increased between positions one and two, but decrease on positions three and four, pointing that the conversions are the most expensive in the top position and get more inexpensive when moving down in position. The reason for the increase in the cost per conversion metric in position two could be the significantly uneven distribution of costs and conversions between the four positions. However, it would require further study to confirm.

On Mobile, the CTR had a similar trend with the computer device, as it decreased when moving down from position one. The conversion rate dropped between positions one and two but increased significantly in position three. When moved to position four, the conversion rate decrease again. The cost per conversion dropped drastically between positions one and two and continued to decrease in the lower positions, implying a similar phenomenon as on the Computer device.

Finally, the author analyzed the distribution of costs and conversions between the positions. The results showed that most of the costs, as well as conversions, are focused on the first two positions on the results page. However, the ratio between the percentage of the conversions and the costs was negative on the top two positions, whereas on positions three and four, the percentage of total conversions was higher in comparison to the percentage of the total costs.

These results show that search engine users are prone to click on the advertisements located at the top of the search engine results page, even when they are not highly motivated to convert. Furthermore, the study results imply, that the top two positions are not necessarily the best position for the case company to aim towards, as the conversion rate increases in the lower positions, whereas the price of a single conversion goes down. This is in line with the previous study conducted by Agarwal et al. (2011.)

Based on the study results, the author suggests that by determining the optimal position for each keyword, based on the conversion rate, and cost per conversion metrics, the case company could avoid paying for numerous clicks that won't convert and therefore won't bring value to the company. The study showed that in position three the conversion rate increased in comparison to position two, while the cost per conversion dropped significantly. Therefore, the author suggests the case company to try locating some of their advertisements located in position two to position three, to see if a similar number of conversions could be acquired with lower costs

However, the aforementioned suggestion should be approached with caution. Even though the advertisers in the lower positions might have a higher conversion rate, and a lower cost per conversion rate, the scalability of the volume on those positions might be difficult. As the final part of the case study showed, the majority of the traffic, and the conversions are focused on the top two positions. With that, only by lowering the position of the advertisement between positions three and four, it might lead to a significant drop in the overall conversions, despite the higher conversion rate.

As a suggestion for further studies, the impact of other marketing activities over a given company's advertisements' performance by ad rank could lead to useful insights. If the efforts taken by other marketing channels in the company increased the potential customers' tendency to click on an advertisement, by making the overall brand of the company more appealing, the company could look for a strategy that saved advertising costs and/or increased advertising revenues across marketing channels.

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