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Bachelor Thesis

Just Google it. A qualitative study on SEO and SEA practices.

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Abstract

Objectives: This research is exploratory in nature and aims to evaluate the dynamics of search engine marketing practices, such as search engine optimization and search engine advertisement. It also addresses the literature gap on how these practices possibly influence search engines regarding the creation of information clusters, known better by the metaphors ‘filter bubble’ and ‘echo chamber’. These concepts will be evaluated, explained, and investigated by taking into account further factors that influence this dynamic such as the user's search intent. The overall aim is to find out more about how marketing practices influence Google’s algorithms, which eventually leads to an influence on the end-user. Establishing these connections will open up the field for further research on individual choices in digital environments, and whether marketers have an influence on these choices.

Methodology: In this qualitative research, 15 semi-structured expert interviews have been conducted with three pre-tests to restructure and improve the interview question catalog. The data of the interview transcripts was then coded (with the qualitative analysis software Atlas) with methods of open, axial, and selective coding. The coding procedure resulted in a codebook with which the codes were given according to the paragraphs content, meaning, and context. The coded statements were then analyzed regarding their impact for the study.

Findings: Search Engine Marketing (SEM) experts apply methods in their daily tasks that have the potential to reinforce information structures for end-users. Through many manipulation methods such as writing content with many relevant keywords that are derived from a keyword analysis, internal and external linking of web pages, and writing meta descriptions, the search engine’s (Google’s) algorithms are influenced to index, rate, and rank client’s websites. This study found that the influence of algorithmic filtering with data that is provided by the same

company, translates to the potential reinforcement of information for consumers. Therefore, the influence SEM practitioners have on the search engine is also narrowing down the choices end-users can make consequentially, which leads to reinforced voluntary exposure. This study has found indications that SEM practices enhance the technological filters which in turn can lead to more personalized and a limited variety of content for users. Since users already experience the information they access online through a personalized filter this dynamic strengthens the reinforcement of information structures.

Implications: It is up to SEM practitioners to create meaningful high quality content for end-users that matches their needs and wants. Search engines will display the websites to consumers accordingly, if algorithms pick up on the traffic that is generated by creative marketing. To be able to avoid personalization, users can choose to use anonymization tools and decline online trackers when possible. Digital marketing professionals have to realize how their role as gatekeepers is either broadening and enriching consumer's choices for the products and services they are looking for, or limiting consumer's choices by applying Search Engine Optimization (SEO) and Search Engine Advertisement (SEA) carelessly without regard for the end-user.

1. Introduction

Since the world wide web has been created, people have stored information in online repositories for others to access. This is considered to be one of the biggest achievements of our time in the digital age. Search engines are the most common way for users to navigate through the vast amount of information that is gathered on the internet, which is expanding daily. When users are looking for products, services, or information online it has become the standard for websites and search engines such as Google to track user's search behavior and to attach that data to a consumer's personal profile (Pariser, 2011). These personal profiles are among other practices used to match users with information they would consider to be more relevant, including brands and products that have been looked at before (Berman & Katona, 2013). This content is then presented to end-users consequently by the engine in the results for their next search queries. There are possible dangers that are connected to this ongoing personalisation of content. When other voices that present a variety of information to users are undermined or omitted from a user's sight, so-called 'filter bubbles' can come into existence which reinforce users in their previous beliefs and make it unlikely for users to access information, products, or services that have not been communicated in their preferred social structure (Nguyen, 2018). Furthermore, Nguyen (2018) states, that when other relevant voices are actively discredited, so-called echo chambers can be the result, in which other information is discredited by the actors within the same information structure. Various factors play into the possible creation of these information clusters, such as groups reinforcing beliefs together for each other, algorithmic filtering of information, voluntary and involuntary selective exposure, and search intent.

There are different types of information cluster examples that have been outlined over the past 11 years. The publicly most well-known term "filter bubble" has been introduced to refer

specifically to technologically mediated filtering, especially via algorithmic matching (Pariser, 2011). This matching of web pages to consumer's searches is done by algorithms to process the 100.000 search queries that are typed into Google's search field every single second. Today, the search engine Google has a market share of 92.07% for desktop PCs and mobile devices (*Search Engine Market Share Worldwide | Statcounter Global Stats*, n.d.). Since 2009 the company has started a campaign to personalize content for all of its users, which means that two persons who are using the same search term would receive different results based on their previous searches and online behavior in the SERPs (Search Engine Results Pages). The information that is displayed since that update is not only based on previous searches, but also user preference, which is mainly anticipated through cookies and beacons on various websites before a search query is made (Pariser, 2011). The algorithms have become more sophisticated and better in predicting what content is possibly more relevant for a specific user than other content. This development is concerning because it suggests that algorithms are creating personalized bubbles for every person that is merely surfing on the internet and is consequently tracked and influenced in their decision making for the acquisition of information, but also in the choices which products or services to engage with. The early hopes of democratization through the internet have been replaced with fears that the biggest companies are tailoring commercials according to user's previous searches for profit (Pariser, 2011).

Therefore, it is highly probable that users who access information clusters are reinforced in their beliefs but can get access to diverse information if they wanted to. It appears, these algorithmic mechanisms are not limiting people's access to information but rather present them with opinions of like-minded individuals they preferably choose to interact with. This can also be translated to the market context in which people would choose the products or services that they already know, even though they would have the choice to find more diverse content. How marketing practices influence the algorithms that present products and services to consumers

and how their choices are influenced is the scope of this study. Digital marketing practices can have an impact on the reinforcement of information clusters because marketing companies use data that is provided by Google to anticipate which terms are used at which frequency throughout the time span of a year, to choose specific terms as keywords in the texts they write with the intention to improve the ranking of a client's website. These practices can lead to the enhancement of personalized algorithmic filtering processes by Google which in turn can lead to a selective exposure of information for end-users. Selective Exposure is a concept in communication and media studies that can lead to the creation of information clusters. This concept outlines that consumers will choose certain information they are familiar with if they can choose from a pool of existing content (Katz et al. 1955; Klapper 1960). Hence, when individuals are given some choice, selective exposure is expected to be the outcome of voluntary action (Cardenal et al., 2019), also known as voluntary selective exposure.

The scope of this study is to gain insights from marketing experts into the working mechanisms of search engine marketing practices and how these practices influence algorithms and personalized filters with a viewpoint to clustering information for end-users in the presented results. The interaction component will be analyzed from the viewpoint of marketers from different departments who interact in a broader market context. Filter bubbles and echo chambers have been described as specific examples for information clusters. For this research the focus will be on the broader term information clusters, that are possibly created through personalized filtering processes, and not mainly through social interaction between end-users. It can be argued that since the Page Rank update from Google, information bubbles exist for each user that has a user account on Google (Pariser, 2011). This study takes this earlier technological development into account and tries to explain the possible connection between Search Engine Marketing (SEM) practices and the reinforcement of belief systems. The reason for a sole qualitative data analysis, is that the insights of search engine marketing experts can

give explanations about exact practices and marketing tactics, which in turn could be connected to the reinforcement of information. SEO (Search Engine optimization) and SEA (Search Engine Advertisement) experts actively arrange content of websites to increase site traffic and popularity. These professionals have a good understanding of how Google evaluates search terms and ranks pages, but also how users are actively searching for information and how they specifically pose search queries to the search engine (Skiera et al., 2010). To understand the dynamics of these practices and their influence on algorithmic filtering can possibly open up the field of research into information clusters in online spaces further.

To prevent or disrupt the constant reinforcement of previous beliefs, algorithms should function to present multiple diverse choices in the search engine results pages. This is not the case, because Google's algorithm tries to match the most meaningful websites to a search query, without anticipating variety as a factor for good quality or meaningful results. However, there are certain tweaks to this issue and "freshness" for the query is represented in the results with anticipations the algorithm makes that could satisfy the user's search query regarding many previous searches from other users on the same topic (Dean, 2021). Query auto-completion and query disambiguation relate to the suggestions in the search bar on Google and other search engines when a user types in one or a few letters. The search engine then automatically matches the most relevant terms to these letters or words the user entered into the search field. This auto-completion is usually triggered by the browsing history of users and the within anticipated user interests and preferences for information (Kong et al., 2015).

There is much literature about SEO and SEA from a marketing and economic perspective (Alpar et al., 2015; Chen-Yuan et al., 2011; Shenoy & Prabhu, 2016), but only little academic research on the understanding and experience of those practices by consumers. Since search engine companies and marketing companies work hand in hand, the concerns that have been raised and discussed in academic literature can be researched from a different

angle in qualitative interviews. Furthermore, these experts track their progress over months to decide if a campaign has success, needs to be adjusted, or terminated. Insights from these experts will be analyzed to determine if SEM practices contribute to the possible creation and reinforcement of information clusters for consumers.

Therefore, the research question for this study will be:

“What are the dynamics of Search Engine Marketing (SEM) practices used by experts in the field of digital marketing, regarding the shaping of information clusters on Google?”

Additionally, sub questions will be posed to evaluate the technological and the individual side of selective exposure. These questions are the following:

“What are the dynamics of Search Engine Marketing in the marketing context with regard to voluntary selective exposure to consumers (individual)?”

“What are the dynamics of Search Engine Marketing in the marketing context with regard to involuntary selective exposure to consumers (technological)?”

First, the theoretical framework for the research will be outlined including the concepts of information clusters and in which fields these have been studied, the selective exposure to information and which variants there are for this type of reinforcement of information, the search intent of users and how it is relevant in the marketing context, the different filters from the triple-filter-bubble framework, and the working mechanisms of search engine marketing. Secondly, the methodology will be explained in detail, regarding the design of the study, the instrument, the sampling procedure, the sample itself, the ethical considerations, the codebook, and the data analysis procedure. Then, the results will be displayed by relevance of the findings and in co-occurrence with the application of the codes and the importance of the statements that participants made towards the research aim. Furthermore, the discussion part will reflect on

the findings and research implications and how these link back to the theoretical framework. Finally, in the conclusion part alignments and contradictions between the framework and the findings will be outlined towards the topics of interest, and what they mean for further research.

2. Theoretical framework

In the following section will be explained how developments of digital information clusters in online spaces translate to the marketing context and why they are important to understand for researchers, SEM practitioners, and consumers.

2.1 Search Engine Marketing practices

Consumers using a search engine face the option of clicking organic or sponsored links in the results section for a search query they made. The organic links are ranked according to their relevance to the search query, whereas the sponsored links are allocated to advertisers through a competitive auction. Once the auction is complete and won, the winning company's ad is displayed to a user who made the search query. Research from Berman & Katona (2013) states that "[...] a 2010 survey of 1500 advertisers and agencies revealed that 90% of them engaged in SEO and 81% purchased sponsored links." (p.644). Sponsored links are the advertisements on the results pages that are displayed above the organic links on the search engine results pages. The main difference between these links from a marketing perspective is that the user's click on the organic link does not cost the company behind it any money directly, whereas a click on the advertisement is based on a per-per-click model which means that the advertising company pays a fee directly to Google for every visitor who is being directed to that website (Spiral, 2021). Research from Berman & Katona (2013) states that people have more trust in organic search links, which means that advertised links are seen as less trustworthy because of their obvious appeal as an ad (usually there is a sale or best product description involved). Since most companies engage in these practices it is in question if these optimization methods reinforce information structures for consumers on a certain scale. Search engine marketers include certain words in their texts and ads to make sure Google connects a user's search request to their website's or ad's content.

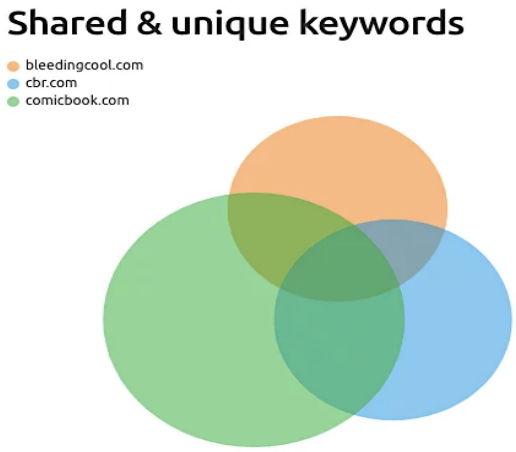
These keywords result from analyses of data that Google provides and that can be accessed by marketers via the Google Search Console, which displays search volumes for the previous three months to broadly calculate what consumers have been specifically in wording looking for online. Therefore, it can be observed with analysis tools such as Semrush or Moz , that competing companies are using the same keywords in their optimized texts for their websites (Gudivada et al., 2015). The raw data that indicates the search volume is the same for all competing companies which engage in SEO for the same product or service. This means that only a few relevant words are taken into consideration when it comes to the promotion of products or services, and synonyms or searches with multiple words are omitted. Of course the words that are derived from a keyword analysis need to be included in the content of the websites and ads to make sure that visitors come to the site or click on the ad (Vasilijević et al., 2020). People who are looking for a service or product might be guided from their initial search queries to other words that fit the product or service they are looking for better, according to the monthly search volume provided by Google that most companies use in turn to attract consumers. This dynamic leaves the question if information structures are reinforced by multiple companies using the same keywords, with a possibly negative impact on the end-user regarding information clusters.

Companies pay large amounts of money to their employees for SEO, which is a long-term strategic undertaking (Zilincan, 2015), but the main economic factor that makes especially SEA so expensive for companies are the auctions for keywords. Companies have the option to pay Google a fee to rank their client's websites higher than a competitor's. According to research from Berman & Katona (2013) the company's goal is to act as an intermediary between consumers and websites and to "[...] rank websites, the search engine scores each website on its estimated quality using information gathered from the Internet using crawling algorithms and data mining methods. (p. 647)." Google also ranks organic websites that have

more relevant backlinks from high-ranking websites above others that have the same quality but less backlinks. These backlinks are also a factor that influences how a website is ranked in the results, but it also influences traffic from other websites, the authority of a website, and the interaction between linked pages (Hardwick, 2021). It is possible that many linked web pages use the same keywords to make clear to Google's algorithms that these websites are connected. This approach can lead to the clustering of information and online spaces where the same information is repeated multiple times over.

Figure 1

Example for a keyword overview with multiple competitors on SEMrush



In the field of Search Engine Advertisement on the contrary ads undergo auctions based on algorithms that decide which website will be shown on the SERPs of a user who is using search terms that are related to the content the website displays. Factors for these auctions are how high the bid for a certain keyword is, how high the click-through rate of a website is, and how good the overall quality of a website is (Mialki, 2020). The latter is determined by algorithms that "crawl" these websites and determine the user experience, ranking many factors. This includes among others an evaluation of how fast certain elements of the website load, how

well hyperlinks are connecting the pages, and how well paragraphs are arranged (Carter, 2022). It is in question if this circumstance possibly contributes to the creation of information clusters for products or services if companies pay enough money to push multiple websites into the results pages of users by greatly improving the functionality.

Google has changed its algorithms (e.g., Florida, Panda, Penguin, RankBrain) with updates over the years (a big one being the page experience update in June 2021), to prevent fraud with black-hat and gray-hat SEO techniques and to ensure the quality of the websites that have been matched to searches from users (Miller, 2022). Black-hat and gray-hat SEO or SEA techniques are optimization methods that contradict Google's terms and conditions (Malaga, 2010). An example is the creation of multiple websites with low-quality content from one source, that form a network of backlinks to enhance the authority score of a page. The changes that came with updates have made white-hat SEO techniques (methods complying with Google's terms and conditions) the standard for ranking websites higher in the search engine results pages, but there are ways to outsmart a machine. It is important to understand that the company's algorithms alone could not create information clusters. Google provides a service to users. And of course, many companies are using Google to present their services and products (these include goods as well as information) to consumers. Therefore, employees in online marketing companies are actively working to write meaningful content for websites to rank them higher than competitors (Vasilijević et al., 2020). The content creation is usually based on multiple specific keywords which are the base for the text and are combined with an appealing looking text that contains other relevant information for the target group and the area where the service or the goods are provided. Another factor that can lead to the reinforcement of information is the user and how a search query is posed to the engine and how a choice is made from presented filtered and personalized results.

2.2 Search Intent

When people search online there is a web browser involved and the use of certain keywords that express what they are looking for. One word can have multiple contexts and lead to multiple results in the search engine results pages. According to research from Sadikov et al. (2010) search queries from consumers are matched with existing search queries that have been initiated by consumers and have been saved in the user's search query logs. This matching is produced by algorithms that decide which web pages get funneled into a consumer's results pages according to their previous queries. If a consumer for example searches for "San Andreas" after looking for "Holiday California", it is more likely that the matched webpages will be about hotels, rather than the movie or the video game (Kong et al., 2015). Over time all search queries build clusters that are connected to each other and are more or less relevant to other search queries for all users. A study by Cheng et al. (2010) has introduced the concept of a trigger that is present shortly before users type in a search query. These triggers vary with the topics that are presented on a web page. These topics can be interrelated, especially when backlinks from one company to another are present. This interrelatedness gives an impression how Google mines data from high authority web pages and displays these search volumes accordingly to SEM practitioners in the Google Search Console or on Google Trends. Through these matching processes and the suggestions for experts looking for the most used keywords for a product, service, or information, these algorithms could lead to involuntary Selective Exposure through the omission of other search words declared as less relevant or irrelevant by the algorithm crawling the web pages. Research from Fukunda et al. (2018) states that personalization can lead to the consumption of less diverse content with possible polarization and negative effects on society as the outcome. Furthermore, in this research it was outlined that people were "[...] less likely to be fragmented and polarized over time if they were not affected by such external factors as web algorithms [...]" (p. 14). Therefore, the personalized

filtering that can lead to less diversity in the SERPs is a factor for the reinforcement of information structures for end-users.

According to Pérez-Escolar & Noguera-Vivo (2021) several studies that had been trying to research whether different people would receive different information on their results pages on Google News, could not prove that this was the case, since users were presented with the same or very similar results on Google News. These studies dismiss the concerns that had been raised by Pariser in 2011 and argue that there is diversity for information and news provided by Google for users and that there could be even a need for more personalization for Google News feeds to have citizens fully informed. Many of these studies came out since 2018, and it can be argued that the search engine company has rolled out more updates to counter negative effects from algorithmic computations and takes public concern regarding these issues seriously. For example, a study from Courtois et al. (2018) outlines that the PageRank algorithm that ranks pages according to their backlinks from other relevant and high-ranked webpages, has been “[...] incessantly refined and supplemented by others, increasing its performance and resilience to spamming and large-scale manipulation.” (p. 2007). These developments bring forth the pre-dominance of white-hat SEM techniques. Making large-scale manipulation methods that contradict Google’s terms and conditions impossible to apply, also prevents the clustering of low-quality sources of information. This adds to keeping end-users from accessing information clusters in the first place. There are different forms of clusters and different ways how these come into existence.

2.3 Information clusters

Several academic papers have outlined the impact of personalized information clusters that come into existence because of various factors. The metaphors that are known most for these clusters today originated already more than 20 years ago. Echo chambers and filter bubbles are examples for spaces that prevent any contradictory information coming into the vicinity of

search engine users. The term “filter bubble” was introduced and popularized by legal scholar Cass Sunstein in a series of books since the early 2000s, while the “echo chamber” concept builds on a rather utopian vision from Negroponte (1995) in which people would only receive news items that would be relevant to their known interests (Pérez-Escolar & Noguera-Vivo, 2021). While scholars argue about the interchangeable appliance of these terms and their definitions, this research will look at the creation of information structures that reinforce previous beliefs for consumers, for example through the omission of (search-) words.

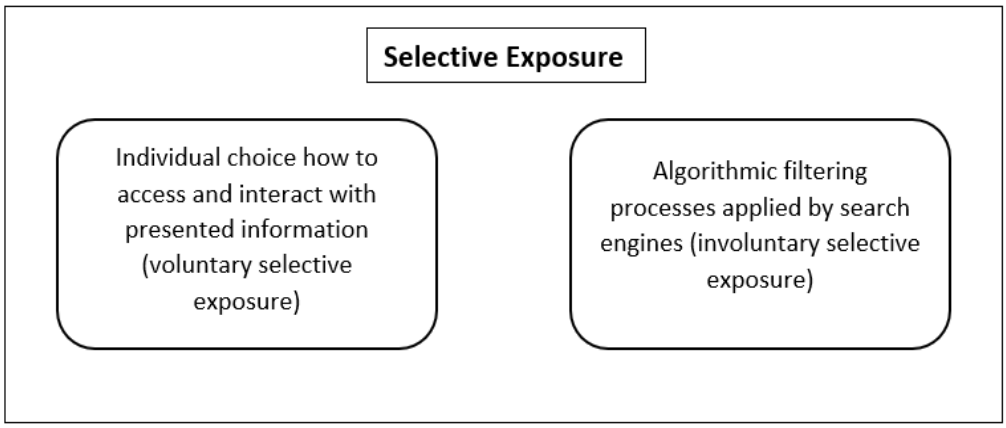
Many users may not be fully aware of the existence of algorithmic personal filtering. Even amongst those who do, most do not tend to have access to the particularities of the algorithms doing the filtering; thus, “[...] the opacity of the process makes it harder for a user to successfully evaluate and epistemically compensate for such filtering.” (Nguyen, 2018, p.4). This circumstance suggests that consumers are influenced in their decision making process when it comes to multiple choices for products, services, and information in such a way, that their choices could not be based on profound reasoning because of too little information about the filtering process. Nguyen (2018) defines an epistemic bubble as “[...] a social epistemic structure which has inadequate coverage through a process of exclusion by omission.” (p.1). The keywords that are most used in search queries are distributed to marketing companies and used to create content and advertisements. Less used words in search queries are possibly discarded in the process and are therefore not used and omitted from the user’s sight. It can be differentiated if users are actively participating in the process of selecting specific information more preferably over other information that is available, or if technological filters are influencing the results for the user’s search query. These concepts are defined in previous research as selective exposure, which can be voluntary or involuntary.

2.3.1 Selective Exposure

The term ‘selective exposure’ has been used in previous research on information clusters in online news consumption for direct news, news gathered via Facebook, and news referred to by Google (Cardenal et al., 2019). While the context is different to this study on SEM practices, the theoretical concepts of voluntary and involuntary selective exposure can be applied to this field as well, since they refer to algorithms and end-users. Voluntary selective exposure is the ‘choice’ that users make when they interact with a given range of information. On Google this range of information that users can interact with is displayed in the search engine results pages after a search query has been made. Current research from Cardenal et al. (2019) concludes that there is little evidence of Selective Exposure in online news consumption, but it is not known whether this is the outcome primarily of choice (voluntary exposure) or of algorithmic filtering (involuntary exposure). For this study the focus was set on the Google Search Console, since the displayed results are influenced by search engine marketers. If information selection processes are beyond individual control, seem to be derived from involuntary action or without users’ consent the literature suggests that there is a good chance for Selective Exposure resulting from algorithmic filtering, better known as the filter bubble argument (Cardenal et al., 2019). How much search engine marketing is contributing to this concept of selective exposure depends on the methods marketers use to optimize content for the search engine and in what way information structures are reinforced for end-users in the process.

Figure 2

Visualization of the types of selective exposure



2.4 The triple-filter-bubble framework

The processes that factor into the possibility of selective exposure of information to consumers are layered and happen on different levels. They are a combination of machine learning and human-machine interaction. The framework by Geschke et al. (2018) looks at "[...] personalized filtering processes from three different levels: The individual, the social, and the technological level. (p.132/133)". This so-called triple-filter-bubble framework analyzes the phenomenon of filter bubbles and echo chambers from these three outlined perspectives to build an integrated representative picture. Many other theories are included in these three filter stages. For example, the argument for individual filters, which include mainly cognitive motivational processes is based on the confirmation of pre-existing attitudes by Nickerson, the verification of self-views by Swann, Pelham, & Krull, the avoidance of cognitive dissonance by Festinger, the concept of boosting social identity by Brewer, and effects studied under the term confirmation bias. "[...] In all these cases, filtering refers to selective exposure due to an individual's information search, processing, and memory. (Geschke et al., 2018, p.132)". This refers to a user's search intent and the voluntary selective exposure that users are engaging

with themselves. Whether there is the possibility of selective exposure through search engine marketing practices is to be determined. If there is possible selective exposure it will be essential to research the interrelation between the consumer's behavior (voluntary exposure), and Google's algorithms (involuntary exposure) towards this effect.

The framework from Geschke et al. (2018) describes technological filters as the algorithms that try to maximize the time that consumers spend on websites and are therefore exposed to advertisements, which have been personalized by algorithms for each person. Before consumers are matched with a website that fits their search query, Google crawls websites and indexes them, to find the most relevant sites (Carl Drott, 2002). Several technical factors are used to determine the quality of websites. These factors can be influenced by back-end developers of websites who have an influence on the technical performance of website's elements. Google's algorithms rank a website according to main technical factors known to SEO and SEA experts as the "core web vitals". These are a "[...] subset of Web Vitals that are important for quantifying user experience. Some of the metrics are LCP (Largest Contentful Paint, refers to loading), FID (First Input Delay, refers to interactivity) and CLS (Cumulative Layout Shift, refers to visual stability)." (Vasilijević et al., 2020, p.9). It could be that only companies who have enough resources to apply meaningful SEO to their webpages (to improve websites with regards to the core web vitals) rank in the top results on the Google SERPs. Therefore, other pages with higher quality content could potentially rank lower.

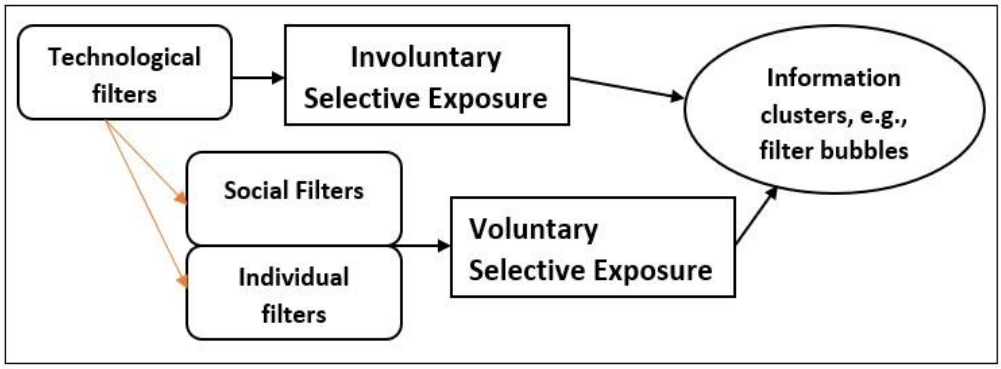
In the triple-filter-bubble framework social filters refer to the shared social identity of users who befriend each other online and share values (Geschke et al., 2018). Social filters in the marketing context can be seen as groups of users who are looking for the same product or service with no direct interaction between them. Because information technologies shape the online market in a rapid way, marketers make efforts to shape their practices towards other people (consumers as well as fellow professionals) to understand (Brookes et al., 2005). Since

there are no groups looking for products or services together, the social influence on the end-consumer is limited in the decision-making process of what to choose. SEM experts shape their ads to target certain groups of consumers during certain times of day, by device, or location (Hoory, 2022). The monthly search volume that is attached to keywords is derived from groups of people making the same choice to look for something in a specific way. Therefore, there is a social component to this field of marketing in which consumers are put into different target groups along the sales funnel.This dynamic furthermore influences the amount of money companies have to pay in bidding auctions for certain keywords that are used for search engine advertisement. However, the social filters and their impact on the reinforcement of information will not be within the main scope of this study, since there is no direct interaction between the individuals categorized in e.g. target groups.

The three types of filters mentioned in the triple-filter-bubble framework are indicators of how algorithmic personalization influences the individual decision-making processes of consumers. This dynamic can lead to selective exposure and the reinforcement of information structures for consumers (Cardenal et al., 2019). This includes certain information that is displayed to consumers about products and services that can be purchased online and which are promoted and advertised by SEM professionals. Furthermore, it can be stated that the sites that users interact with are again perceived as being of higher relevance for other users by Google’s indexing mechanisms because of site interaction and expected click-through-rates (Berman & Katona, 2013). This is important for this research because SEM experts can elaborate on how they perceive algorithmic filtering and how they incorporate the data that is provided to them into content and advertising. Furthermore, it will be interesting to gain insights about the exact goals of search engine marketing and if these practices enhance the reinforcement of information structures for end-users from an expert’s perspective.

Figure 3

Visualization of the triple-filter-bubble framework



3. Methodology

For this study an exploratory qualitative research design was used to explain the interconnections between the possibilities of information clustering in a search engine marketing context. The following questions were raised:

“What are the dynamics of Search Engine Marketing (SEM) practices used by experts in the field of digital marketing, regarding the shaping of information clusters on Google?”

Sub questions:

“What are the dynamics of Search Engine Marketing in the marketing context with regard to voluntary selective exposure to consumers (individual)?”

“What are the dynamics of Search Engine Marketing in the marketing context with regard to involuntary selective exposure to consumers (technological)?”

3.1 Research design

To find out about Search Engine Marketing practices and how they possibly influence the creation of information clusters in digital spaces, a qualitative study conducting expert interviews was chosen to have direct insights into the field of Search Engine Optimization and Advertisement, or similar departments of digital marketing connected to these practices that might elaborate on the possible creation of information clusters from different angles.

An interpretive approach was chosen for this exploratory research. The interaction between the researcher and the participant reflects the daily experiences of these professionals in their jobs. It is crucial that participants are able to reflect on their tasks and to inform the researcher to the best of their abilities for meaningful results (Boeije, 2009). The participant’s statements have been transcribed and coded with a codebook that has been established mainly with the triple-filter-bubble framework by Geschke et al. (2019), but also on the answers that

have been provided by the expert participants in the interviews. Therefore, the codebook has been established with deductive and inductive reasoning. The advantage of this method is that in vivo codes can be established next to codes that have been derived from the literature. This gives the researcher the opportunity to probe for additional information that had not been considered before during the literature review. Open-ended questions in semi-structured interviews were chosen, to give participants the chance to dive into their field of expertise and explain how their daily tasks influence algorithms and end-users respectively.

3.2 General measures

Interviews were conducted in offline and online settings according to the preferences of participants. Also, the programs that have been used for the recordings have been chosen to preferences of participants (Microsoft Teams, Google Meets, Discord) After filling out the consent form (Appendix B) participants were recorded either via audio-recording or video- and audio-recording with the screen-capture software OBS Studio. The collected data was stored, with single access to the researcher. For the transcriptions all data was anonymized and therefore treated confidentially. Furthermore, the data was not shared with third parties and is not meant to be published. Recordings will be deleted after the study has been completed and only transcripts will be saved for a longer period of time.

3.3 Instrument

In this type of qualitative expert interview, the researcher asks these open-ended questions and probes for elaborations on questions, without having a thoroughly planned step-by-step interview scheme at hand. Only a list of the main topics that need to be discussed are taken to the interview. Whenever the interviewer feels the need for further explanations, a follow-up question can be asked to explore further, if participants can give more insight into the topic that is studied. “[...] During the interview it is paramount that the interviewer to some degree

accommodates the participant's need to spend more time on certain issues, listens with interest, and does not interrupt the flow." (Boeije, 2009, p. 104). Participants can talk about their routines when working on content or ads for a client and what these routines include and lead to. This way of approaching the study will help to find more suitable questions following participants in their thought process through the interview. The most salient reasons for conducting a qualitative study are that the method has an explorative nature, that the data collection can be adjusted throughout the collection process, and that interviewees can describe their situations and express their thoughts in an elaborate way. Especially, when it comes to the topic of reinforcing information structures, probing for additional information will be helpful for the research. Boeije (2009) states furthermore, that "[...] qualitative analysis is conceived as the processing of data in order to answer the research question [...]" (p.120). Segmenting and reassembling are considered the chief activities of qualitative data analysis. When the steps to consider ethical concerns, thinking about sampling, formulating research questions and purpose, reviewing literature, and choosing a subject and approach are done, the data collection can begin.

This process is based on grounded theory, which was framed in terms of "[...] a series of cycles in which the researcher moves back and forth among the data collection and the analysis." (Boeije, 2009, p.30). The constant comparison of data is another advantage of qualitative studies for evaluating emerging ideas that can have major consequences for the research. Therefore, it can be stated that qualitative research is flexible and cyclical. Expert interviews with SEO and SEA professionals should give meaningful insights into the daily tasks in this field. By understanding the mechanisms behind the manipulations of Google's algorithms to rank web pages higher in the search engine results pages, the interviewees can elaborate on where specifically in this process the reinforcement of information, and selective exposure could become a factor. Regarding the communication of the participant's experience for this study,

Bogner et al. (2009) states that “[...] the focus is on knowledge of action and experience, which has been derived from practice, is reflexively accessible, and can be spontaneously communicated [...]” (p.47). In qualitative research inductive thinking is paramount, which means that a social phenomenon is explored to find empirical patterns that can function as the beginning of a theory (Boeije, 2009). Starting points how this theory could be construed as, have been outlined but the statements of experts will be crucial to formulate this theory further. This research will be based on how these experts construct reality while interpreting the acts of others and the world around them and how they perceive their own behavior on these interpretations. These interpretations can give new angles to the research that could change how the approach to study this topic could be considered.

To gather meaningful results it will be also necessary to connect the fields of expertise of the participants of the study to their daily practices and how these daily tasks are connected to the manipulation of search engines. Once these connections have been established it will be interesting to interpret how these experts perceive Google’s influence on the display of information to end-users. These dynamics and interconnections between SEM practitioners and the search engine will be the basis to interpret made statements about the reinforcement of information. One group that is also intertwined in this process are end-users. Statements about consumers and what role they play in the digital marketing context will be closely related to the individual filter argument from the triple-filter-bubble framework by Geschke et al. (2018) and how the involuntary selective exposure to information via algorithms possibly further influences the voluntary selective exposure of end-users by a limitation of choice (Cardenal et al., 2019).

To evaluate social media online marketing, an online questionnaire based on a holistic framework by Felix et al. (2017) asked respondents to “define social media marketing, discuss self-selected best and worst practice examples of social media marketing, discuss success factors and success metrics, and describe their ideal implementation of social media marketing

in a self-selected organization" (p. 3). This framework aimed to shed light on the strategic implications of social media campaigns from different stakeholder perspectives, by applying qualitative interviews and qualitative surveys with social media marketing experts. These questions can be translated towards SEO and SEA practices in the marketing context to gather insights from respondents about how these would evaluate success factors and best practices.

Table 1

Theoretical concepts related to the literature with links to the questions catalog

concept	related literature	related topics	examples
Search Engine Marketing Practices, Search Engine Optimization, Search Engine Advertisement	(Berman & Katona, 2013)	SEO & SEA	"Can you define the terms search engine optimization and search engine advertisement?"
	Felix et al. (2017)	Best practices of SEO	"Discuss self-selected best and worst practice examples of Search Engine Marketing."
			"Discuss success factors and success metrics of Search Engine Marketing."
	(Chen-Yuan et al., 2011)	Multiple SEM strategies	"Can you give an example of a website that improved to your satisfaction in the rating when you applied SEO or SEA techniques?"
Applying Search words/ Keywords in digital marketing	(Vasilijević et al., 2020)	Keyword appliance	"How do you decide which search words are incorporated

			into text and/or ads, which are presented to end-users?”
	(Skiera et al., 2010)	Keyword specifics	“Would you use certain keywords over other keywords that could be suited better for a product or service (only because Google suggests that the monthly search volume for this keyword is higher)?”
Information clusters, Personalized filters, Selective Exposure	(Cardenal et al., 2019), (Nguyen, 2018)	Information clusters	“What do the terms “filter bubble” and “echo chamber” mean to you?” “Do you see the possibility of information clusters coming into existence on Google via SEM practices? And if so, please explain.”
	(Geschke et al., 2018)	Personalized filtering	“How do you see the connection that Google is influenced by SEO and SEA practices with data that is provided by Google?”

For the question catalog the questions were aligned in a logical order to enhance the flow of the interview and to structure the questions in blocks that could be answered according to the topics connected to the demographics of participants, SEM practices, keywords and search words more specifically, and algorithms and their outcomes. Shaping the question line in that form ensured that the answers would start out broader and would become more specific regarding the research question and the sub questions in the process. Furthermore, the dynamics of search engines and how they were perceived by participants factored into the views of participants on how information custers could possibly be created or enhanced by the

manipulation of algorithmic filtering. The complete arrangement of the questions in the question catalog can be found in Appendix A.

3.4 Pre-tests

A pre-test was conducted with three participants who have been recruited using the method of convenience sampling, to evaluate the quality and the order of the interview questions, and to discover how respondents would interpret the questions (Boeije, 2009). During the testing phase the participants were informed about the purpose of the study and what the goal of the interview would be. It was made clear that personalized algorithmic filtering could be enhanced with marketing practices in the field of search engine marketing and that the possible information clustering could lead to involuntary and voluntary selective exposure. The pre-test led to smaller rewording segments in some interview questions to make them more comprehensive. The two main outcomes of this phase was the structuring of the interview questions into segments called “Demographics”, “Search Engine Practices”, “Search words”, and “Algorithms and outcomes”. This structure was outlined to be beneficial for the researcher as well as the participants with regards to the general structure and the flow of the interviews. The second main outcome was to withhold information about information clusters and specifically the terms “filter bubble” and “echo chamber” until the segment “Algorithms and outcomes” would take place in the interview. This choice was justified with the reason to give no indication about the studies research aims until the point of giving exact explanations of the terms for participants. This would give them the freedom to talk about their daily tasks without having to think of a bigger context the study would be in. The rewritten and structured interview questions can be found in the appendix (Appendix A).

3.5 Sampling

3.5.1 Sampling Method

The sampling method that was chosen for this study was the non-probability method of purposive sampling, which was used to gather participants with specific characteristics. These characteristics were the experience in the field of search engine marketing, and to have worked in the field to be able to answer questions about digital marketing practices. For this sampling method a sample consists of several participants that have been chosen from the defined research population (Boeije, 2009). From an internship at an online marketing company with departments for back-end and front-end development, data analysis, Social Media marketing, content writing, and SEO as well as SEA, there have been pre-established contacts beneficial for this study. Experts for SEO and SEA are specifically located at marketing companies; therefore, snowball sampling was an appropriate sampling method to find participants in turn. After an expert of one company had agreed to participate in the study the expert of that company further gave information where other experts could be located. In a general weekly meeting at the internship company on the 6th of June 2022, five participants agreed to participate in the research which was presented to them in a few sentences during that meeting. From these participants four more participants were found through snowball sampling. Snowball sampling is “[...] a non-probability sampling method, often employed in field research, whereby each person interviewed may be asked to suggest additional people for interviewing [...]” (Babbie, 2015, p.188). In the following week four more participants were recruited via convenience sampling by asking students who worked in marketing companies either in internships or otherwise. Two more participants were found through convenience sampling by reaching out to experts over the Social Media platform LinkedIn. Therefore, the data collection phase lasted from the 6th of June to the 17th of June.

3.5.2 Participants

There have been 15 participants ranging from 22 to 50 years for the study who qualified as Search Engine Marketing experts for the interviews. The sample is diverse and therefore to a certain degree representative for the field of digital search engine marketers. It consist of 8 females and 7 males of which 8 have less than 3 years of work experience in the field (and have been coded and will be referred to as “young professionals”) and 7 have more than 3 years of work experience in the field (and have been code and will be referred to as “senior professionals”). The participants were employed in 4 different marketing companies. While all participants worked in some combination with search engine marketers and applied SEM techniques in their daily tasks (keywords and other manipulation methods), 9 participants stated Search Engine Marketing specifically as their field of expertise. The attached fields of expertise that are connected to SEM were defined as “Community building” (1 participant), “Back-end development” (1 participants), “Front-end development” (2 participants), “Social Media” (3 participants), and “Management” (6 participants).

Marketing companies have SEM departments which specifically monitor campaigns and analyze the market for resources to rank their client’s websites higher, but also departments with back-end developers, front-end developers, social media marketers, and other marketing professionals who apply SEO and SEA techniques in their daily practices. Most of these practices are connected to the use of keywords in the creation of high quality content to attract customers, and the influence of algorithms with similar methods (Vasilijević et al., 2020). The following table shows the characteristics of each participant. These include age, gender, the field(s) of expertise, highest educational graduation, work experience, if they were in a managerial position, and if they worked in Social Media marketing.

Table 2

Participants' characteristics

	age	gender	field of expertise	highest graduation	work experience (years)	manager	social media tasks
Participant 1	26	female	Back-end development	HBO	1.5	No	No
Participant 2	50	male	Conversion optimization	HAVO	19	No	No
Participant 3	33	male	Search and big data conversion	Bachelor	7	No	No
Participant 4	41	male	Front-end development , Graphic design	HBO	11	No	No
Participant 5	24	male	SEO and conversion marketing	Master	7	No	No
Participant 6	36	male	Search and big data conversion	Master	10	Yes	No
Participant 7	26	male	Front-end development , UX design	Bachelor	3	No	No
Participant 8	24	female	Digital Marketeer	Master	1	Yes	Yes

Participant 9	30	female	Digital Marketeer	Master	4	No	Yes
Participant 10	22	female	HR manager, community building	HBO	2	Yes	No
Participant 11	24	female	Content Writing, SEO	HBO	0.5	No	No
Participant 12	23	female	Digital Marketeer	Bachelor	0.5	No	No
Participant 13	30	female	Key Accounts Manager	Master	2	Yes	No
Participant 14	25	female	Junior online Marketeer	Master	1	Yes	No
Participant 15	27	male	Digital Marketeer	Master	1.5	Yes	Yes

3.6 Ethical considerations

As far as an inductive approach is concerned, it is generally unknown beforehand what data will be generated and what the frame of analysis will look like. However, there are no known threats to this study that participants need to be made aware of. There might be a slight discomfort for participants though should a reflection on their daily tasks reveal that consumers are negatively influenced by SEO and SEA practices. All participants will be older than 18 years, no minors will be interviewed for this study. Questions will be about the participant's demographics, SEM practices and to find out how information clusters possibly come into existence in a marketing

context. Furthermore, the identities of participants will only be displayed by numbers in the study and throughout the report to ensure the anonymity of the respondents. Before the interviews are conducted, participants will have to sign a consent form that explains the purpose and the scope of the study in detail on an information sheet. Once the consent form is signed and the approximately 30-minute-long interview will be conducted. It will be verbally stated that at any time during the interview participants can cancel and terminate the interview without having to give any reason to the interviewer. Additionally, it will be stated that the recordings will be deleted if the interviewee asks for it. The raw data will be saved securely, and the transcripts of the interviews will be deleted once the study is completed. No data will be used for commercial purposes and access during the study will only be made available to the research team.

3.7 Codebook

To be able to compare the statements of participants with each other, the creation of codes is a necessity in qualitative research when conducting and analyzing interviews. Braun and Clarke (2006) define the action of coding as the giving of labels that identify pieces of information as data of interest. Through codes it can be assessed how certain topics correlate with one another in which context. For the purpose of this study a deductive approach was chosen for some codes that are based on the triple-filter-bubble framework by Geschke et al. (2019), which was also the basis for multiple interview questions. Furthermore, the inductive approach of in-vivo coding and codes for the different job areas based on the demographic questions were created to structure the data according to the field of expertise and additional information that had not been considered before and was not mentioned in the literature. The next few paragraphs will explain the code groups and their codes in more detail. The full codebook with examples for each given code can be found in Appendix C.

Altogether the codebook consists of 6 code groups with 29 codes. The base for this codebook has been set via structured coding and a framework analysis of the triple-filter-bubble

framework by Geschke et al., (2018) which again describes personalized filtering processes on the individual, the social, and the technological level. The individual level includes the codes “user intent”, “tracking (of the user)”, and in the wider sense also “target groups”, since individuals are part of these groups specific content is targeted at. On the social level there is the code for “Social Media” which displays how tracking and the reinforcement of information translates to this field, which then can be compared to similar practices on Google. The technical level is the base for most of the codes that have been based on the framework. These include “Algorithms”, “Filter bubble”, “Echo chamber”, “Google Tools”, “Keywords/Search Words”, “Omission of words”, and “Reinforcement of information”. All other codes have been based on the grounded theory approach which makes sense of the data that is provided to establish theories that are based on that data (Boeije, 2009). The explanation for the choice of the particular code groups is as follows.

The code group “job branch” includes the codes that refer specifically to the fields of expertise of participants. The codes “Back-end development”, “Front-end development”, “Social Media”, and “Management involvement” have been chosen to be applied for statements involving job descriptions and specific parts of information connected to that exact field to also outline the context in which certain statements were given. For example, it is important to differentiate between the reinforcement of information from a visual design or a content creation standpoint when talking about information clustering that could lead to filter bubbles or echo chambers. Furthermore, the codes “Young professional” and “Senior professional” were added to be able to evaluate whether newcomers in the field would perceive the possibilities for information clusters on Google via their practices, or their practices in general differently than senior professionals.

The code group “Google” combines all codes that are connected to the search engine Google and how it operates. This includes the “Algorithms” which are the technical measures to

actively read (crawl) and index websites, the “Checks and balances” the company applies to tackle practises that contradict the terms and conditions clause of Google, the “Google tools”, which the company provides for digital marketing companies to base their decisions on (data provision from Google), the “ranking factors” Google updates regularly to ensure the quality and high standards of websites that are matched to consumer’s search queries, and the general “Search Engine dynamics”, experts will refer to. This last code for the dynamics is meant to be applied to broader explanations that have to do with the mechanisms of the search engine in the bigger picture of marketing practices.

The code group “Search Engine Expert Practices” includes all codes that have to do with the daily tasks of Search Engine Marketing and the practices the participants apply, but also what they would define as relevant with regard to their tasks. The code “Search Engine Advertisement” refers to everything related to Google Ads and how participants interact with that tool. “Search Engine Optimization” is meant to be coded for statements which include the wording literally, because the term usually describes the context with another practice. “SEM goals” is used for specific goals that participants refer to, such as conversions, new leads, or sales. “Best practices” was chosen to describe the subjective value of applied practices of participants. The code “client relations” was established to be applied to all mentions of client interactions and considerations, and the code “analytic work” for all tasks that have to do with analyses performed by participants, mostly regarding the campaigns of clients.

“Manipulation methods” was chosen as a group for all mentions about the specific manipulation methods that can be applied to influence the algorithms of Google with the aim of ranking websites higher in the search engine results pages. These influencing methods include the use of “keywords” which can have a specific “relevance”. Furthermore, these “Search Engine Manipulations” in the broader context also have to do with “linking” back to own

webpages (internal links) or receiving links from external sources to your website (backlinks). “Meta data” refers to the words that are usually inserted in the back-end development according to images and content. All of these methods are used to influence the algorithmic filtering processes Google applies to index and rank websites.

The group “End-user” was created to label all statements about the interpretation of user’s perspectives from experts with a general group code. The sub-codes for this group are “User intent” which has been applied to statements of participants for user’s search intent online, but also how users might think in different contexts. In this case there were codes applied to the same section of the already coded segment. “Target groups” is applied to mentions of specifically these words, usually in combination with analyses or tracking tools. The code “tracking” was created to mark all sections in which participants stated either to track consumers actively, or how consumers would be tracked with the use of software to create data from private companies.

The code group “Information clusters” was mainly applied to answers for the questionnaire section called “algorithms and outcomes”, in which participants were asked to elaborate on marketing practices and their possible creation or enhancement of filter bubbles or echo chambers. The codes in this group are named “echo chamber”, “filter bubble”, “omission of words”, and “reinforcement of information”. These codes are applied to the sections in which the possible creation of information clusters and their dynamics are discussed by the participants with either the specific wording for the terms of the codes or the implication of those for certain circumstances for example when information was stated to be presented multiple times for marketing purposes to the same user or audience. The codes in this group are mainly determining if there is an enhancement of involuntary selective exposure to certain information via algorithms for users on Google.

3.8 Data analysis

Because of the exploratory nature of the study, the codebook was created with the method of open coding, axial coding, and selective coding. The data analysis software Atlas.ti was used to code the transcripts of the interviews. This software is especially used for qualitative data analysis and offers not only the options to count the attached codes, but also to visualize the data according to co-occurrence and code groups. In the following section the choices for the taken data analysis procedure will be justified.

3.8.1 Reliability and validity

Validity in qualitative research is mostly connected to the term ‘trustworthiness’, which refers to a robust research design, the credibility of the researcher, how believable the findings are, and if other researchers could recreate the research in future studies with the same research methods (Rose & Johnson, 2020). To account for validity, the design of the research is explained, as are the ways how the results of the study have been produced. To determine the reliability of the codebook, 10% of the interview transcripts have additionally been coded by a second coder. These 10% translate to 2 documents of the transcripts in this study. In total 136 text passages have been coded by both the researcher and the second coder. The reliability values ranging theoretically from 0 to 1 (indicating no agreement to full agreement between the coders) will be presented individually for each of the code groups, (code groups individually, list the values for the individual 6 code groups). Since for some code groups there have been more codes given than for others, this ensures an overview for the specific groups, avoiding statistical misrepresentation. All codes have been explained in detail to the second coder and are designed to be mutually exclusive. The overall reliability score for the codebook results in a 0,83 out of 1, indicating a strong agreement between the two coders. The reliability scores (Cohen’s Kappa) for the individual code groups are as follows:

Table 3

Reliability scores for the individual code groups

code group	codes within the group	description	cohen's kappa
Job branch	Back-end development, Front-end development, Management involvement, Senior professional, Young professional, Social Media	Simple demographic descriptions	1/1 Full agreement
Search Engine Expert Practices	Analytic work, Best practices, Client relations, Search Engine Advertisement, Search Engine Optimization, SEM goals	SEM practices and descriptions	0,76/1 Moderate agreement
Google	Algorithms, Checks and balance, Google tools, Ranking factors, Search Engine dynamics	Dynamics and mechanisms related to Google	0,84/1 Strong agreement
End-user	Target groups, Tracking, User intent	Dynamics and mechanisms related to the consumer	0,65/1 Moderate agreement
Manipulation methods	Keywords/Searchwords, Linking, Meta data, Relevance, Search Engine manipulation	Methods marketers use to influence website rankings	0,86/1 Strong agreement
Information clusters	Echo chamber, Filter bubble, Reinforcement	Dynamics related to the clustering of information	0,88/1 Strong agreement

	of information, Omission of words

3.8.2 Coding

The first part of the coding procedure is open coding in which segments of the data are aligned with broader codes with the goal to create a structure for the data. This gives the researcher a good impression of the topics that have been discussed during the interviews and how these bigger parts of the data can be broken down into smaller parts for more specific codes. This first list of codes can be applied to all paragraphs of the transcripts to make sense of what has been said. With this first set of codes the data can be broadly conceptualized, categorized, and compared (Boeije, 2009). This procedure was applied at the beginning of the coding process to attach meaning to the fragments in the data. Codes that were derived from the theoretical framework were applied as well as in-vivo codes. The topics that had been discussed in the interviews were used to broadly structure the segments at the start of the coding process. Thereafter, axial coding was used to make more sense of the data and to apply codes that could explain the discussed interview topics in more detail. This process is meant to narrow down the initial chunks of data into working concepts and to structure the data according to the research themes. This approach takes into account the open coding process and builds upon it. The same applies for the next stage in the coding process, the selective coding. This concept is used to create more understanding for the data, to be able to make comparisons and to analyze the interconnections between the formerly coded paragraphs (Babbie, 2015). Through the overall coding process the data was structured into segments, which were in turn connected to each other, to make sense of the given statements in the context and the scope of this study. Multiple results have been found in line with the aims of this research.

4. Results

All interviews have been transcribed and coded according to the codes that have been presented in the codebook. To evaluate what marketing processes there are and in which of these processes experts specifically contribute to the reinforcement of information that has the potential to reinforce information clusters for end consumers, it is necessary to outline the practices that are connected among the fields of expertise of the participants. In the following section it will be first displayed in tables how many times the codes within the relevant code group have been applied to the 15 transcripts and which codes co-occurred the most. Secondly, participant's statements will outline in which circumstances the participants agreed or disagreed on a certain topic, and what specific reasons, explanations, and insights they gave. Lastly, it will be explained what implications these statements have towards the reinforcement of information and the clustering of information in the digital marketing context.

4.1 Search Engine Practices and manipulation methods

Table 4

Code frequencies for code groups 'Search Engine Expert Practices' and 'Manipulation Methods'

code	frequency	most co-occurrence with	frequency
Analytic work	52	Keywords/ Searchwords	22
Best practices	78	Keywords/ Searchwords	20
Client relations	39	Analytic work	9
Search Engine Advertisement	61	Search Engine Optimization	20
Search Engine Optimization	75	Search Engine Advertisement	20

SEM goals	45	Search Engine Advertisement	10
Keywords/ Searchwords	128	Relevance	42
linking	14	Best practice	6
Meta data	13	Best practice	6
Relevance	65	Keywords/ Searchwords	42
Search Engine manipulation	19	algorithms	5

When Search Engine marketers start to plan a campaign 13 out of 15 participants stated that it is important at that specific stage to consider the client's starting point, products or services, needs, and the market prospects. There is usually a close collaboration with the management team, which then discusses further steps for a campaign with the developers (front-end, back-end, content). Participant 1 said "Our priority is, and our success depends on the client's approval." At the start of a new campaign, all experts involved in the project advise the management on best approaches, but what the client ultimately decides to take as a course of action is then evaluated due to its feasibility and approved by the management of the SEM company. The priority of the client depends on various economic factors that are checked for realistic execution by the experts. The most common marketing goals according to participant's statements are to increase the traffic to a website, to get more conversions (which can be sales), to increase the return on investment (ROI), to increase leads (potential customers), to build relevant internal and external links, and to improve the ranking of a website in the search engine results pages on Google. Participant 2 for example said that "We need to know the rules of the game to turn it into an advantage for our client. To have a return on investment, more

traffic, more sales, or more conversions.” Already at the start of campaigns there are practices that can lead to the reinforcement of information with regard to content when templates are used that create a certain structure that has been applied by another practitioner before. Here participant 1 stated “But usually, we do have a structure that we follow… we have templates, where we use one website as an example that was already built by someone.” This circumstance may not contribute much to the reinforcement of information clusters by itself, but these practices can accumulate in the process of the campaign-building.

Once it is established which course of action to take, the analytical work starts which aims to identify where the current campaign stands or what a new campaign needs. At this stage it is already considered how elements of websites that are not search engine optimized can be improved to be picked up better by algorithms that crawl and index websites. Therefore, SEM experts actively arrange information on websites with the goal in mind to influence algorithms. Participant 13 for example stated “I would say it's setting up content in a user-friendly way. So it's easy, readable and snackable. And also, to set it up in a way that makes sure that the reader is finding the content he's looking for.” Content also needs to be optimized for Google crawlers regarding website setup and loading time. For Search Engine Optimization it is important to analyze the keywords surrounding a product or service, since this gives a rough estimation for the traffic that can be generated with the content of a site. Many times data provided by Google is used to evaluate the monthly search volumes for a keyword and related words.

The most important step for analysis in SEO campaigns is the keyword analysis. This was stated by all participants involved in finding out the monthly search volumes for certain words. The code for “keywords/search words” was given the most, counting 128 times throughout the 15 transcribed documents. The code most connected to it was “relevance” (65 in total, 42 times in connection to “keywords/search words”) which is logical, because the more

relevant keywords are evaluated, the better these words will be for achieving certain marketing goals. This is also the process where it is decided which keywords or search words are left out from certain campaigns. Participant 1 stated that this process “[...] certainly pushes down other less related terms because there are terms[...]” connected to most users and this dynamic is what makes these words relevant. The end result of this process is usually a report that describes which search words are mostly appropriate for a campaign and are then given to colleagues to create the content for these campaigns. The omission of certain keywords that are not used because other words are more relevant because of monthly search volumes is contributing to information systems that ultimately present limited choices to users. This is directly related to involuntary selective exposure, since SEM practitioners choose to consider certain keywords over others. Participant 3 stated in this context:

> *“SEMrush for instance, I use SEMrush. To look at the page, what are you currently ranking on? What terms are shown in the results of the search engine. What I do then is an analysis of the webpage and the company. So, for instance, because I do that analysis, I also get specific keywords. So I also do a keyword analysis with those keywords. So I get many keywords and an image with what the company is affiliated with. When I have the keyword analysis, I'm going to make a rank tracker report. So I'm going to see how well these keywords are ranking.”*

On the other hand there is Search Engine Advertisement, which focuses on Ad campaigns. “For Search Engine Advertising it is very important to know where exactly in the sales funnel a consumer is [...]” was outlined by participant 15. Different campaigns that are suggested by Google are implemented at certain stages of that funnel until a conversion or sale is made. Here the main difference between the two was stated, SEO working with unknown ranking factors, while SEA was namely the short-term version of SEO for quick marketing results to boost SEM goals. Participant 14 said this:

But one of the most important things about Google and how you influence its algorithm, is basically that the entire thing is an auction, you basically bid on keywords. And if you have the highest bid, then your ad gets shown over the competitors. So let's say a click on the keywords costs at least 13 cents, but then your main competitor is bidding 25 cents, then you have to bid at least 26.

It was stated by multiple participants that Google has clear monetary aspirations, with SEA being the main source of income. Nevertheless, companies pay attention to SEO campaigns just the same. Regarding the reinforcement of information participant 3 made an interesting point saying that "[...] Okay, so it's not like you won't see separate terms, because Google is constantly clustering those, right? So I think, because most web pages are now optimizing for SEO. So if Google says most people are looking for these words, everybody's optimizing the products in their pages for these words." This statement is important because keywords are presented in already clustered forms to all competitors that have products or services for which these keywords could fit. Ultimately, these companies will optimize their content then using the same optimization methods.

Keywords are also used in meta descriptions and title tags for images. These descriptions are usually attached in the content management system a marketing company uses. In principle these small attachments with an ideal length of around 200 characters are used in anticipation that the algorithms pick up on the keywords and add to the quality score of the site. Most of these descriptions end with a 'call to action' which is intended to nudge the users to visit the site with statements such as 'find out more about this product/service now'. Most participants stated that there is no ideal number of keywords to aim for but to aim for a high-quality text with diverse information in which a main keyword is used multiple times and other relevant keywords are added. Participant 2 added to the context of meta descriptions that "[...] companies always try to trick the consumer to some extent into clicking on the website. The

term ‘clickbait’ must be familiar to you.” Three participants mentioned that short-tail keywords are used to reach out to a broader target audience, while long-tail keywords (more search words with a specification to location, etc.) are used to reach smaller audiences that could be more suitable for the offered products or services. The Google Keyword Planner Tool provides these keywords for the Ad campaigns automatically. Participant 15 stated that “[...] there are certain semantics that Google cannot understand [...]”(yet) to find the best search intent for a product or service. This is where SEM experts are needed, to optimize websites that are more fitting to the user's search intent. Another statement by participant 15 regarding ranking pages higher in the organic search results in comparison to advertising pages was:

> *So I've noticed that ranking higher on Google is becoming more difficult because Google would rather you pay them money to rank higher (using ads). So things like average cost per click are going up, the average cost per keyword is, in general, a lot more expensive nowadays. When you set up a Google ads campaign, you basically have to do everything manually, in kind of expert mode, right? If you do anything according to the Google suggestions, you're paying more, and you're not getting anything more in return, because Google says, hey, maybe you should add banner ads.*

These have been the main results about search engine marketing practices and the manipulation methods marketing professionals use. The following section will outline the results that have been found in the context of influencing Google with these techniques.

4.2 Influencing Google

Table 5
Code frequencies for code group 'Google'

code	frequency	most co-occurrence with	frequency
Algorithms	50	Keywords/ Searchwords	12
Checks and balance	9	Search Engine dynamics	4
Google tools	47	Keywords/ Searchwords	22
Ranking factors	29	Keywords/ Searchwords	8
Search Engine dynamics	59	Reinforcement of information	8

Whenever Google realizes that someone takes advantage of the functionality of its algorithms the websites of these persons or companies are punished in some form. Participant 2 stated that Google has the power to penalize websites that apply gray hat and black hat SEO techniques, by deranking websites or by "[...] kicking websites completely out of the indexing program." Participant 14 stated about the dynamic of SEO that:

> *[...] The trick is to outsmart Google. You can use the data that Google provides, try to find a little loophole in the system and just try to be a little bit more clever than Google is, until they realize that you're being more clever and get rid of the entire system altogether. It's the chicken or the egg discussion, just in marketing… you use data by Google to influence the data in Google.*

This last statement of changing the system altogether refers to an algorithmic update. Since the ranking factors are only known to Google, an algorithmic update levels the playing

field for Search Engine Marketers using black-hat, gray-hat, and white-hat techniques alike. What can happen if Google finds out about manipulation methods that do not apply with the terms and conditions was outlined in detail by participant 14 on the case of ‘keyword stuffing’ malpractice by the company Nike:

> *Google is just such a massive player, I mean, you have to use it (...) do everything you can, and then in that manner, just outsmart it like what Nike did with adding a lot of times the word Nike on the bottom of the page, but in white, actually, people wouldn't see it, but it would bring the keyword density of their own page up. So they would rank a lot better until Google found out about it and just banned it to a certain keyword density per page.*

This statement makes it obvious that big companies use techniques that impact the ratings of websites that are displayed to end-users in turn. These techniques sometimes do not comply with Google’s terms and conditions and are especially designed to influence the algorithms by clustering bits of information, which do not add to the value of the page regarding the user experience or other benefit for the end-user. Participant 6 being in a managerial position, stated that their company always “[...] tries to have sustainable results.”, which means that their link-building tactics and other strategies for campaigns would still do well after “[...] an algorithmic update which could potentially change everything”. Additionally, this participant said that their company would look favorably towards these updates, since other bad-practice websites would fall in the ratings compared to their sustainable methods of link-building (which was called link-earning in this case) and high-quality content writing. Search Engine Advertisement is not impacted much by updates, because the recommendations from Google for these campaigns are valid information that can be applied instantly. As participant 6 put it: “[...] regarding SEA you have no other sources, because the click data and the cost are directly coming from the Google ads.”

The code ‘Google tools’ was applied throughout the 15 transcripts and gave a good estimation on how many participants relied on data provided by Google to conduct their keyword analysis. The Google keyword planner is not the only tool there is to have an overview of the monthly search volume for keywords. There were other tools mentioned by participants, such as MOZ, SEMrush, Ahrefs, or Mangools. What these platforms have in common is to base their keywords on monthly search volume which translates to how consumers look for certain products and services. Participant 15 stated in this context “The other good thing I think that Google does, and there's a lot of things Google does that I disagree with. I think one good thing that Google does, is the fact that it's all anonymous clumps of data.” This data is to a certain extent anonymous, since the volume is not indicated in specific numbers but rather in tens, hundreds, or thousands. Google for example does not attach specific user data but presents it in a general way. When participants were asked about the fact that they try to influence Google with data that was provided by Google, for example participant 6 said that this:

> *Because you can think about that in two points of view. (...) We trust Google or we don't trust Google. So I'm always a little bit in between, okay? It's data and okay, sometimes you can rely on it. But don't always be sure that all the data is 100% correct.*

Furthermore, it was stated that the provided data should be seen critically. But SEM practitioners still rely on the given data heavily. In that regard there would need to be trust in the data with the assumption that it is correct. This characteristic was also addressed in a way that the search engine could limit information to end-users if it wanted to. Participant 15 stated that “[...] Google is quite secretive about (algorithmic) changes and that (...) after a new update random websites might suddenly just disappear from the rankings and no one knows why.” This means that technological filters could potentially influence the websites that are displayed in the search engine results pages without the owners of the websites or the users knowing the reasons for it. This also influences the choices end-users can make in accessing information.

Participant 4 stated in this regard that “[...] now therefore, the information they give, they push you, like, in one way or one direction they want you to go.” The dynamic of reinforcing information through manipulation methods is an indication that there is involuntary selective exposure for end-users which is addressed as ‘technological filters’ in the triple-filter-bubble framework. The following part will describe specifically the findings from participant’s statements about the clustering of information structures with an outlook on what this means for consumers.

4.3 The clustering of information

Table 6
Code frequencies for code groups ‘Information clusters’ and ‘End-users’

code	frequency	most co-occurrence with	frequency
Echo chamber	5	Filter bubble	2
Filter bubble	33	Reinforcement of information	13
Omission of words	11	Reinforcement of information	6
Reinforcement of information	58	Keywords/ Searchwords	14
Target groups	28	Keywords/ Searchwords	9
tracking	20	User intent	5
User intent	67	Keywords/ Searchwords	20

The most important code group to find out about the reinforcement of information is ‘information clusters’. When the construct was explained to participants, most were more familiar with the term ‘filter bubble’ and needed additional explanation for the term ‘echo chamber’. This issue is

also displayed in the coding data that can be seen in table 5 regarding how many times participants discussed one term or the other. Parts about the reinforcement of information and filter bubbles were mainly connected to either the user's search intent or how the user would be affected by systems of personalized information filtering. Participant 8 compared the influence of algorithms by using data from the same company as “[...] a self-fulfilling prophecy. In the way I look for something I will always be reinforced by the information I get.” According to this participant it would be “[...] easy nowadays to drift into a personalized bubble. (...) it is very possible that if you look for that information online multiple times, that Google presents you with more information about it successively. Also with a certain perspective.” This statement refers to technological filters that are based on previous search. Participant 2 stated that “[...] this self-reinforcement in itself doesn't have to be bad. But if it's, if you're kind of in a loop, if the algorithm is running into a loop, then that would not be beneficial for the customer. And Google (meaning its employees and policies) has to be very careful.”

Being asked directly about how participants perceived the circumstance that SEM practices could lead to the possible creation of information clusters, 7 of the participants stated that this reinforcement was already happening to some extent and a known dynamic of the manipulations that could have such an impact on end-consumers. Participant 1 gave this statement when being asked about SEM practices and if they could possibly create information clusters:

> *Definitely, because the main purpose of it is to find those keywords, to find those users. So for each company, they want to find the users and by using that keyword, thus influencing the amount of similarly searched things for that user to that user. So in that sense, they do strengthen the bubble as it were.*

6 participants said that it would depend on the larger context and whether political information or information about products or services would be displayed in the results pages. These participants also made common claims that the reinforcement of information was partly beneficial for end-consumers but also partly clustering and omitting information. Participant 6 made this statement regarding algorithmic filtering in combination with the clustering of information:

> *I think that's something they are already doing. Because they always try to push the most relevant content that's suited best for you. That's what your interests are. It's kind of… but that's what pretty much all the tech giants like Facebook, Instagram, Google, they all try. They all try to push sort of advertisements or content that's based on your search history based on your traffic, your interest.*

There is also ambiguity among marketers who want to have access to the data provided by Google to make better predictions about consumer behavior and improve the ratings of websites to their client's satisfaction. On the contrary side these marketers see what negative effects can be created for end-users who are on the receiving end of perfectly fitted advertisements that are tailored to their needs and optimized websites that use the same methods to write their content and structure their back-end as well as front-end for these pages. Participant 8 reflected on this circumstance with this statement:

> *From a professional perspective it is of course nice to have as much data as possible that is there to use. Also to find out about and talk to the target group more specifically. In private I rather see it critically because of reasons for data protection. I think that you take away the chance from consumers to have other products in their vicinity and to meet these other products. And these products would also fit their search. So I would see it from two sides. Regarding the perspective of the end-user I think there are two*

sides as well. One user is maybe happy that a product is exactly matching the search query. But there are probably also many end-users who would prefer a more neutral offer.

Two participants saw no indication for a reinforcement of algorithmic filtering by trying to influence Google's algorithms with data provided by the company itself. According to their statements, the filtering is done by the end-consumers themselves in the way they are looking for information online. This refers to the voluntary selective exposure to information and individual filters. Participant 6 used the metaphor "big library" for Google and said that "[...] If you compare the normal library you go to, you're looking for books, that's what Google does for you. It gives you the books and the books or the websites in this case, and the books eventually have an effect on you, not me [...]". So, Google is seen here as a service provider that would recommend books according to a certain search intent of a user. Which books would be chosen in the end would be up to the user, also if that search query would be changed according to the presentation of the offered books. But how certain information is displayed to users depends very much on the narrowed down choices that are made by algorithmic predictions by the search engine. These predictions in turn are made with further information about a certain user that is gathered by tracking, target group characteristics that apply to a user, and therefore the anticipated search intent of this user. Participant 10 stated in this context of a limitation of choice for consumers:

This (personalized filtering) provides a huge limitation to you as a user, because you'll always find what Google thinks you're looking for. But there are cases when by exploring different websites, you find out that the thing that you are looking for is not the thing that is actually suitable for you. So you are limited by Google, you have a barrier there. And Google doesn't allow you to cross the barrier, because it only provides exactly according to your profile.

The code group ‘End-user’ gives more clarification on that subject. The broader code ‘User intent’ gives insight how SEM experts try to anticipate the exact words customers might use for a product or service in an online search. A previously mentioned keyword analysis can help to find out about the potential number of customers looking for a particular product or service. But there are also methods of tracking users’ search process or a target group's online behavior with certain tools. This furthermore gives marketers the impression that their targeted ads and website content is exactly what the consumer has been looking for. For example participant 9 stated that it is visible to marketers using Google tools to “[...] see where customers are looking at on a website using heat maps”. Participant 10 stated that it would be exactly visible how many viewers a website had, and that this information would be crucial to determine which SEO campaign type to choose. There was another interesting comment from this participant in the context of target groups and tracking:

> *As I said before, if you know your target group, and if you know what they are looking for, you will always provide the words that will get you to the target group. That search engine optimization helps to go directly to the target group using specific words that you know are suitable for your target group.*

The participants who were involved with Social Media campaigning indicated that the tracking process was much more supported by Facebook for example, and that retargeting consumers could be done more easily with the given tools of the platform. Several participants assumed that these measures were justified to reach out to end-users because what consumers want is to have more convenience, which translates to fast results. As participant 12 stated: “If I was the user, I would rather go with the first because I want to get to my information as soon as possible to what I'm looking for as soon as possible.” Participants also tried to reflect on the thought process and the decision-making process when it came to selecting certain sources for information, products or services. Participant 11 reflected on this issue with this statement:

> *When people are involved in a topic, let's say it could be anything political, it could be about cooking, it could be about religion, it could be about building furniture. And it is often especially specific in online communities but not exclusively in online communities. You share knowledge and opinions and everything with others and you hear other opinions that you don't necessarily have to share, but at some point about a specific topic, there can be a very narrow minded narrative, or there can be information left out as well. So you have a filter, you could say, if you only have thrown it in this, only looking at reading and getting informed about that topic within this specific kind of community, which is from like minded people.*

4.4 Additional Results

Many participants voiced concerns about how information was displayed to consumers and that search engine companies were the biggest winners in this constellation with search engines, users, search engine marketers, and companies offering products and services online. One participant stated that the risk of the job of a search engine marketer was to create an information bias for consumers by showing them information, products, and services that were personalized towards what they have been looking for online in the past. Participant 12 specifically stated “We just want to optimize the outcome as good as possible, and I don't really see how to avoid that bias when we just want to get the best outcome and the most searched keywords.” Another participant (14) was worried that Google’s push for more profit in terms of optimization would render Search Engine Marketers arbitrary in the future. Specifically stated was that:

> *They're trying to push optimization a lot, which sometimes puts in question the necessity for having online marketing or advertising marketeers at all. Because if Google keeps on automating it, what is there going to be left to do for us?*

While the ethicality of these marketing practices was discussed on a weekly basis in some departments, other marketers were individually worried about which information reached the end-consumer and what impact the optimization for convenience purposes would have in the future. In total 14 out of 15 participants voiced concerns of some sort regarding these developments in their field of expertise, while nearly half (6 participants) of them saw both the advantages and the disadvantages of SEM in connection with Google in a certain balance.

5. Discussion

This exploratory study aimed to answer the following research question: “What are the dynamics of Search Engine Marketing (SEM) practices used by experts in the field of digital marketing, regarding the shaping of information clusters on Google?”. This was done by focusing on the selective exposure of information for end-users which was either voluntary or involuntary. From this point of view the sub-questions “What are the dynamics of Search Engine Marketing in the marketing context with regard to voluntary selective exposure to consumers (individual)?” and “What are the dynamics of Search Engine Marketing in the marketing context with regard to involuntary selective exposure to consumers (technological)?” derived. In the following section the main findings of this study will be discussed and compared with the existing literature that has been outlined in the theoretical framework beforehand, to give an answer to the research question and the sub questions of the research. Furthermore, practical implications will be presented with regards to the end-user. Finally, the limitations of the study will be presented, with the additional recommendations for future research.

5.1 Main findings

5.1.1 Exclusion by omission

Search Engine Marketers and their practices have a substantial influence on the content that is presented to users and the words that are chosen for the content of web pages. This includes the use of keywords, linking, building web pages to certain standards, applying meta tags, and inserting relevant visual content. This research has shown that most of these practices are connected to one stage in the search engine marketing process, which is the initial keyword analysis, as already mentioned in research by Vasilijević et al. (2020) or Berman & Katona (2013). It has been found that certain keywords are pushed down during this process of choosing keywords that are provided by Google, and are in turn omitted from the user’s vicinity. According to Nguyen (2018) a structure with inadequate coverage is an epistemic bubble, which

translates to an information cluster that can come into existence in the marketing context. Therefore, marketers contribute with their daily practices to an exclusion of information by omission, which enhances the technological filtering processes outlined in research by Geschke et al. (2018), which states that companies such as Google assume users' wants and needs and select offers for certain sites in order to maximize their profits. An exclusion by omission through a keyword analysis is also limiting the variety of choice for consumers to interact with in their search engine results pages. This research found that search engine marketing professionals perceive this development as problematic with a viewpoint on the end-consumer, but have to evaluate the provided data to rank websites of clients higher than competitors using the same data to stay ahead.

The dynamic of a big search engine such as Google is that users are reinforced with content they have been looking for before with the practices of marketers. Individual filters that have been described in the triple-filter-bubble framework are factors that lead users to search for content they are already familiar with. Since, the content that is presented to them thereupon is based on previous monthly searches, this strengthens the volume for these specific keywords that are used for products or services which will be picked up by algorithms again. This is certainly the case for Search Engine Optimization, but technological filters also personalize the advertisements created by Search Engine Advertising. Here, multiple competitors bid in auctions for certain keywords that are presented by Google as the words that promise the most traffic. Already filtered words according to monthly search volume are sold over less expensive synonyms with less search volume. These words with less relevance for consumer’s searches are more likely to be omitted from their sight.

5.1.2 Voluntary and involuntary selective exposure

5.1.2.1 Involuntary selective exposure

The term selective exposure has been established in the literature by Cardenal et al. (2019) which refers to the circumstance that end-users would interact preferably with content that they have already seen and interacted with before. Technological filters as outlined in research by Geschke et al. (2019) have the potential to reinforce information structures and to limit the variety of choices that are presented to end-users. Involuntary exposure to information through technological filters can be assessed by looking at algorithms and how they rank websites above others. Participant's statements made it clear that search engine marketers invest quite some time in shaping all sorts of information towards how algorithms can pick up on that information to determine the quality of a website and the relevance of a website according to a certain search query. This concerns the technical side of web pages and how fast certain elements load, if meta descriptions are added to visual content and in the content management system of the website during development, and of course if keywords and other relevant search terms are incorporated into the content on a website.

Research from Carl Drott (2002) has shown the nuances of indexing procedures and what indicators there are for professionals to know for influencing algorithms in that process. What the algorithms among other factors pick up on before they index a website are the internal links (hyperlinks) that connect web pages across a website in logical order to the homepage, and external links (backlinks). The more recommendations or links a website gets from other websites with preferably a high quality score in the index system, the more likely it is that Google ranks that page higher accordingly. The term connected to this is 'authority'. Black-hat SEO techniques would exploit this algorithmic mechanism by creating vast amounts of low-quality websites to link to a company's website which paid for these links. This study has shown that white-hat sustainable SEM methods do better in the long run regarding rankings and

Google updates, but that there are gray-hat and black-hat techniques applied by companies which can negatively influence the rankings by clustering information. It can be said that these mechanisms of algorithms and marketing practices hold the possibility to reinforce the involuntary exposure of information about products and services for end-users to some extent.

5.1.2.2 Voluntary selective exposure

Voluntary exposure to information is the reinforcement of one's own existing beliefs by individuals who have a choice (Cardenal et al., 2019). As this study shows, there are several factors that can narrow down that choice individuals can have. Diversity is not a ranking factor that is taken into consideration by algorithms when web pages are indexed or ranked. Therefore, it is up to the consumer to change the search query to reach out and access other more diverse products or services that could potentially fit their needs and wants better. The convenience of having the most relevant information displayed to a search query is what online browsers have evolved to compete over in the 14 years of personalizing content for users. Because many users enjoy the convenience factor of having fast results, search engine employees continue to write elaborate algorithms that can match high quality content with user's searches and marketers will continue to try to find out how to influence, manipulate and determine the ranking factors the algorithms choose to evaluate.

It can be said that these information selection processes are beyond individual control, which makes it hard to comprehend for users how their online choices influence the content that is presented to them. Research by Cardenal et al. (2019) stated that if this circumstance of a selection of choices for consumers by algorithmic filtering is beyond individual control, there is a good chance for selective exposure, better known as the filter-bubble argument. This statement is in line with the findings of this study, since participants have expressed worries regarding the personalized algorithmic filtering processes, end-users have no control over. These processes are to a certain degree enhanced by the practices of search engine marketers who additionally

use tracking tools and targeting campaigns to tailor content to the existing preferences of consumers. In the marketing context these individual preferences can be seen as the belief system that is built on already known products and services. These in turn have been presented in the study by Geschke et al. (2019) in regard to individual filters. By presenting consumers with choices for products and services they are already familiar with, search engine marketers are to a certain extent narrowing down the variety of the choices that are visible for users to make. Several participants in the study have stated that this is best practice in the SEM industry, since users are assumed to prefer convenience and quick results over having the choice over a wide range of different products.

5.1.3 Participants' perceptions of clustered information structures

On the one hand, Search Engine Advertising, also referred to as 'sponsored links' in research by Berman & Katona (2013), was seen by participants as the quick solution to reach SEM goals in comparison to Search Engine Optimization methods. Even though these advertisements are created by using keywords and methods to target the ads to specific target groups, participants have made no statements regarding the worry of any sort that this circumstance could have negative effects on the consumer. This can be connected to consumers trusting organic search results more than the advertisements displayed on the top of the results pages (Berman & Katona, 2013). Nevertheless, the dynamic of this process that matches advertisements to specific consumers who are looking for a specific product or service with matching keywords is also personalized technological filtering. Since there are usually only up to three advertisements displayed in the SERPs, these do not influence the variety of choice regarding the more trusted organic search results for users as much. Search Engine Optimization on the other hand was perceived as the field where the clustering of keywords and search terms could have negative implications for the end-user. This was seen in the context for products and services, but also for political news and other information. The issue that concerned participants most in this

context was that users could possibly voluntarily reinforce their own belief system multiple times over when presented with information that was already familiar to them. This research gave insights into the field of search engine marketing and established that there are certain dynamics in the field that reinforce information structures for consumers with the active manipulation of Google's algorithms by search engine marketers.

5.2 Practical recommendations

The picture at least some of the participants painted for the future of marketing, in line with using data that has been provided by Google has been quite negative with the outlook of these circumstances having a negative impact on consumers becoming worse. But consumers are also becoming more aware of how they are influenced online and what possible impact their search behavior can have on them. Ultimately, it is up to the end-user to decide how they are looking for information, products, or services online. Reading the terms and condition pages when they are displayed will probably still be a rarity, but it already starts by adding three clicks to one's browsing routine to only accept the essential cookies of a website. This conscious behavior can have an impact on how companies are able to track user data. The browser extension DuckDuckGo is easy to install and is dedicated to keep the browsing information safe, without using it for any other purpose than to display results that are not personalized. These practical recommendations apply for the individual filters.

When it comes to technological filters SEM practitioners are able to change their methods to have less reinforcement of information. One approach can be to focus less on data analysis and adhere more to creative marketing practices to reach out to customers. New creative approaches have the potential to greatly improve the user experience of websites with content users are not yet familiar with. Here backlinks from reliable partners are important to keep the ranking of these web pages steady in the search engine results pages during the process. If the traffic of a web page is doing good because of visitors from other sources, search

engine marketers can explore the market by using various other keywords for their client's services or products. This approach can add diversity to the market and tackle involuntary selective exposure by giving end-users more choices. Of course it depends on the client's needs and wishes for a campaign or website, and if they are ready to take a leap with the marketing company.

The company Google itself should make diversity a factor for their rankings of web pages to tackle the selective exposure that end-users face. This recommendation is rather hypothetical since it is not fully clear which ranking factors are used by Google to index websites. Presenting users a wide range of synonyms at the start of their search query could enhance the diversity of these searches and counter the omission of other less relevant search words. Furthermore, this approach would directly give users a choice to look for products or services that lie outside of their previous search range. This could help users to be accompanied along their journey to make an informed choice about a product or service by exploring all available options. At this point it is unknown whether the dynamics of a search engine and their profit model would welcome this approach, or if the current ways of algorithmic personalized filtering ensure the predictability of profits and the stability of market shares.

5.3 Limitations

The scope of this study was set on the dynamics of search engines and how marketers possibly contribute to the creation or reinforcement of information clusters for end-users. Participants of the study mainly talked about the influence of their daily practices on the largest search engine Google. What this study did not take into account were the dynamics of search engines with smaller market shares, such as Bing, Yahoo!, Baidu, or Yandex. These search engines with smaller market shares might have different dynamics that search engine marketers use to promote products and services in these online environments. It has therefore also not been

taken into account to what extent the personalization of information or clustering of information is present for users of these engines.

The social filters that have been outlined in the triple-filter-bubble framework which originally referred to the building of friendship groups that shape certain dynamics regarding filter bubbles and echo chambers when new information enters the web, have been translated to search engine practitioners. Essentially, competing for certain search words and keywords was the discovered dynamic of interaction between different marketers in the field. Social Media marketing practices did not lie within the scope of this study, since not Google but Facebook, Instagram, or Tiktok would be influenced in their dynamics to that effect. The statements that have been made by SEM practitioners who were involved in Social Media in this study, have been compared to methods of influencing Google or Google tools accordingly.

Furthermore, this study did not aim to determine how news or political information is displayed to end-users. There have been no connections made between keyword and search word analyses and how these contribute to the ranking of news or news outlets in users online space. As stated in the theoretical framework previous research on this issue found no indication that political information was displayed one-sided, but rather that smaller news outlets were not represented as much in the results pages for an information search query.

5.4 Future research recommendations

Researching this topic opened up some questions that can be answered in future studies. There is the question of how search engines already take diversity into consideration for presenting results to end-users. Also, there is the question whether the business model of a search engine would allow this dynamic to become more present for presenting results to user’s search queries. This would especially be interesting for the dynamics of Search Engine Advertisement, since Google’s main source of income is generated by Ad placements and micro-auctions for

the search words users type into the search field. Another point to investigate is the connection between Google Maps and location trackers used by Google, and search engine marketing practices. How location tracking is used and displayed to marketers in the Google Ad planner could give further insight into how users are influenced by recommendations of the search engine that are created by algorithms.

One more relevant point for online search behavior that was stated by a participant was the dynamic of the Google voice search. This refers to the practice of posing a question to the phone with adding a phrase to the beginning of the search query to indicate that a voice search is requested. For interacting with Google this interaction request is usually “Hey Google”. The result for such a voice request is usually answered by an impersonalized voice generated by the phone. According to the participant the presented results would always be the first result that could usually be found in the search engine results pages. Additional results would have to be specifically requested by the user. This circumstance of being presented with only the first result instantly, limits the choices users can make to interact with other information even further and exposes users to more content that they are already familiar with.

A quantitative research about user’s search intent in the context of this research could give an additional insight to evaluate more specifically how voluntary selective exposure influences and is influenced by user’s search queries. The main question being if users would choose to autofill Google recommendations in the search bar, or fully type out their search intent and query. There are certain dynamics that need to be researched to understand the full impact of the choices users make and the choices users are presented with. This type of research can furthermore evaluate how much diversity is present in a user’s search results and if the results from another user differ regarding the diversity users can interact with.

6. Conclusion

This exploratory research aimed to investigate the dynamics of search engine marketing practices and the possible creation of information clusters, publicly known as the metaphors ‘filter bubble’ and ‘echo chamber’. Literature suggested that these clusters mainly come into existence through the selective exposure of information, which could be voluntary or involuntary. Additionally, an existing framework on filter bubbles and echo chambers was chosen as the basis to interpret the results with regards to three different filters: Individual, social, and technological.

The study’s findings show that the dynamics of search engine marketing practices indeed show indications of reinforcing information. Especially, the circumstance that information on websites is arranged with data that is presented by the search engine company in exact wording is a clear indication that technological filters are influenced to present users with a one-dimensional information flow for how to to look for certain services and products. Search Engine marketers contribute to a certain extent to this dynamic of reinforcement of information structures. These practices furthermore create online spaces in which the same word can be found among multiple competing websites for the same product or service. It can be argued that this marketing dynamic matches users with the product or service they are looking for in the fastest way, but this dynamic does not account for presenting variety. This contributes to the monetary dynamic that the search engine has, where competing companies pay money in auctions for these keywords to present their advertisements (SEA) to end-users. To change this dynamic from keyword monopolies to varieties of keywords for a product or service could potentially change this profit model positively for the end-user.

The technological filters have a direct impact on the individual filters, because the choice of end-users is limited, once technological filters have indexed, evaluated, and ranked websites. In the process, other keywords for the same product or service might be omitted from the user’s

webspace. Therefore, the involuntary selective exposure of information to users, which is caused by algorithmic filtering, enhances the voluntary selective exposure of consumers by limiting the variety of choice. As stated before, consumers will look preferably for information they are already familiar with. This circle of reinforcing consumers with optimized information according to their previous searches for specific keywords, creates spaces of the same information which is repeated multiple times. This translates to the clustering of information, which is enhanced by search engine marketing methods.

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Appendices

Appendix A - Question Catalog

Question catalog

Topic 1: Demographics

1. What is your job?
2. What is your highest education?
3. What gender do you identify with?
4. What is your age?
5. What is your work experience in years (in the field)?
6. Can you describe your job briefly?

Topic 2: Search Engine Practices

7. Can you define the terms Search Engine Optimisation and Search Engine Marketing?
8. What information do you consider when you begin to improve the quality of a website?
9. Discuss self-selected best and worst practice examples of Search Engine Marketing.
10. Discuss success factors and success metrics of Search Engine Marketing.
11. Can you give an example of a website that improved to your satisfaction in the rating when you applied SEO or SEA techniques?

Topic 3: Search words

12. How do you decide which search words are incorporated into text and/or ads, which are presented to end-users?
13. What is the process to ensure that websites have the correct number of keywords and other relevant search words in them?
14. Would you use certain keywords over other keywords that could be suited better for a product or service (only because Google suggests that the monthly search volume for this keyword is higher)?

Topic 4: Algorithms and outcomes

15. What are the practices you can apply to influence Google's algorithms with SEM?

16. What do the terms “filter bubble” and “echo chamber” mean to you?

17. Do you see the possibility of information clusters coming into existence on Google via SEM practices? And if so, please explain.

18. How do you see the connection that Google is influenced by SEO and SEA practices with data that is provided by Google?

Appendix B - Informed Consent Form

The purpose of this research is to gather information from Search Engine Optimisation (SEO) and Search Engine Advertisement (SEA) experts, as well as content creators and data analysts in the SEO and SEA field. The research aims to identify whether daily practices in this field contribute to algorithms reinforcing consumers' belief systems (metaphors publicly known as “filter bubble” and “echo chamber”). A benefit of this study is that participants can elaborate on their daily tasks and share their experiences. A risk of this study could be that participants feel discomfort when reflecting on their daily tasks while keeping in mind that algorithms possibly create filter bubbles or echo chambers, which could be influencing consumers in their beliefs. This research project has been reviewed and approved by the BMS Ethics Committee/domain Humanities & Social Sciences.

The participant can withdraw from the interview at any point without indicating a reason. Furthermore, the participant can refuse to answer any question during the interview. All personal information will be anonymised by the researcher and only numbers will be used to refer to interview data. The data is gathered for the Bachelor thesis with the title “Just Google it. A qualitative study on SEO and SEA practices.”, which is embedded in the course Communication Science at the University of Twente. Part of this study will be to transcribe the interviews and to code these transcripts. The participant has the right to request access to and rectify or erase personal data. During the research the data will be stored on servers that are compliant with GDPR guidelines, accessible to the researcher and his supervisor. There is controlled access to the data that will be archived on servers from the BMS Lab at the University of Twente. The thesis is not meant to be published publicly. Raw data is stored for 10 years, while the transcripts and codes will be erased upon completion of the study.

Study contact details for further information: Pierre Kocher, p.kocher@student.utwente.nl Supervisor: Dr. A.A.C.G. van der Graaf, shenja.vandergraaf@utwente.nl

Contact Information for Questions about Your Rights as a Research Participant

If you have questions about your rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the Secretary of the Ethics Committee/domain Humanities & Social Sciences of the Faculty of Behavioral, Management and Social Sciences at the University of Twente by **ethicscommittee-hss@utwente.nl**

Appendix C - Codebook with examples

Code Group	Codes	Definition	Example
1. Job branch	1.1. Back-end development	Activities in the technical development of websites (programming and altering code)	“Yeah, it’s more back end. It’s about making your page as light as possible.”
	1.2. Front-end development	Activities in visual design processes and visual data alignment	“Most things I do are with Photoshop. I make the interface design, the graphic design for the web shops and websites.”
	1.3. Management involvement	Activities connected to management positions and the management department	“The management team decides what I need to add and what I need to remove. So, whatever my task description is, where whatever keywords I need to add are given to me. And my job is to make it happen.”
	1.4. Senior professional	Expert with experience of more than 3 years	“I have worked here since 2015. Part time. And since 2019 full time.”
	1.5. Young professional	Expert with experience of less than 3 years	“Yes, it is about a year and a half, because I did an internship at this very company, which I simply continued as a part time here.”
	1.6. Social Media	Activities connected to the Social Media sector	“I'm a digital marketer. I think it's mentioned differently in my contract, but I do online marketing and social media marketing.”
2. Search Engine Expert Practices	2.1. Analytic Work	Analyses in connection to Search Engine Practices	“So, what I do is I make a lot of keyword analysis, investigating how we can help clients, get more traffic to the website, get more, get

			more conversions, get more sales, optimizing our ROI.”
	2.2. Best practices	Self-perceived best practices of experts in the chosen field	“But usually, we do have a structure that we follow. We have templates, where we use one website as an example that was already built by someone.”
	2.3. Client relations	Activities involving clients	“And I mainly do, basically what I've been told what the client would want to be searched and what the management team deems as important.”
	2.4. SEA	Search Engine Advertisement practices	“When we talk about SEA it's all about, you can really, you know exactly what the factors are It's really written down by Google, these are the factors. You look at this, and they even give you advise.”
	2.5. SEO	Search Engine Optimization (literally stated)	“Search Engine Optimization, that does fall in my department, where if I get a task to add more keywords, add specific things, that is part of my job description.”
	2.6. SEM goals	The goals which experts in the field want to achieve with their practices	“Return of investment, and either more traffic, more sales or conversions. Yes, exactly.”
3. End-user	3.1. Target Groups	Groups of users chosen to be targeted for a specific product and/or service	“You want to attract a certain category of clients as well.”
	3.2. Tracking	Tracking of user’s data	“Yes. See, the customer is leaving a page directly. So, if you have the data, you can suggest that the

			customer is not looking for that product with that search.”
	3.3. User intent	How users are searching for certain products and/or services online	“So, they don't first Google it, but they go directly to… but it's a minority. Right? Because yeah, because the problem with people is, it must be easy. Every convenience, convenience. Yeah. Yeah. Right. Thinking costs energy.”
4. Manipulation methods	4.1.Keywords/ Searchwords	Words chosen by SEO/SEA experts to be incorporated into content to influence algorithms	“Specific words that they've searched for before and give them relevant data that is relative to that word.”
	4.2. Linking	Internal linking or backlinks from external websites	“And we see that because of that link building, we improve. Improve that page and the page ranked higher than before. So that worked really.”
	4.3. Meta data	Data connected to lines of code in the background of websites	Yeah, in meta data, a lot of times, that's where you would save a lot of information you want Google to see. You want to be transmitted. I would say, like, even like the title of the page, all those things kind of fall under meta data, the content of the page, so description, so that you can easily find them back.”
	4.4. Relevance	The relevance mostly connected to the code “keywords/search words” (subjective evaluation)	“When Google shows another kind of product, than what I want I think, okay, Google says, you people are not looking for this product in doesn't fit with the search term. So yeah, it's not interesting.”

	4.5. Search Engine Manipulation	Broader term for the evaluation of manipulations made to influence algorithms of the search engine	“It's a certain kind of manipulation. Certain it's just with SEO, you try to get as high in the rankings. And you Yeah, and a certain way you are manipulating Google to get as high as possible.”
5. Google	5.1. Algorithms	Technical measures of the search engine to evaluate quality and performance of websites	“But looking for the product? That's nowadays, because the algorithm, Google’s algorithm is evolving constantly, and they try to add as many human features in the algorithm as possible.”
	5.2. Check and balance	Measures the company takes to tackle marketing methods that contradict its terms and conditions	“And they, they can penalize you with just if it's done. Yeah, if you do too much, they can penalize your website and kick you out of their index program.”
	5.3. Google tools	The technical tools which the search engine offers to digital marketers	“Very specific. But if what you can see in Google Analytics you can see what people are searching for.”
	5.4. Ranking factors	The factors that the search engine evaluates with its algorithms to rank pages in the search engine results pages	“Factors? Yes, I totally did, like 200 ranking factors. Nowadays, it's even more I guess.”
	5.5. Search Engine dynamics	The broader explanations of experts about dynamics of the search engine	“And of course, we can. Improvement is, is always possible. Because Google, and the whole internet is such a dynamic environment, it changes all the time. So, they're always right. Opportunities come and go are won and lost. So yeah.”

6. Information clusters	6.1. Echo chamber	A system of reinforced belief where outside information is actively undermined and discredited	“But if it’s something to do with opinions, or political views, things like that, that's when I think it becomes an issue, because that's when you create that echo chamber, that perhaps isn't objective enough.”
	6.2. Filter bubble	A system of reinforced belief with limited access to information on the outside	“So thus, in that sense, they get to be put in that bubble of those companies who are all prying for the user’s attention.”
	6.3. Omission of words	The circumstance when certain (key/search-) words are left out of content	“Yeah. So, they all go there. So, it definitely, it pushes down any other say less related terms, then all of those get pushed down because one term keywords, is that most connected one to the most users. And then that is also what makes it relevant.”
	6.4. Reinforcement of information	Information that is actively presented and reinforced	“If somebody searched up something in a specific manner, that is pro one thing against another, you will only get information regarding the pro thing that you looked for.”