Voice search analysis in search engine optimization

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Abstract: *With the progress of the new millennium and the rapid digitization of society, the methods of obtaining information from the Internet are evolving daily. Providing the ability to search using voice commands brings a whole new perspective to search engine optimization. This raises the question of whether traditional optimization methods are applicable to this type of advanced technology and what are the beneficial effects it provides to users?*
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1. Introduction

In a decade characterized by the vast advances and development in information technologies, the Industry 4.0 concept, the Internet of Things (IoT), cloud computing and analytics, Artificial Intelligence and machine learning, their implementation plays a major role in the digitalization of the society. The present achievements were unthinkable only a few years ago. Nowadays, the ability to communicate, to develop a business or digital marketing strategy, to search for information in Internet has reached a remarkable level on a global scope.

Digital assistants such as Amazon's Alexa, Google Assistant, Microsoft's Cortana and Apple's Siri are increasingly becoming a part of our everyday lives. The rapid growth in the use of the digital assistants, together with that of the mobile searches, determine shifting Voice searches to a new level. The Voice search is one of the fastest developing search methods and it finds new applications as the technology becomes more advanced. The COVID-19 pandemic accelerated its wider implementation, and since then the users which choose to search without touching any devices become more and more. An interesting statistic about the use of a mobile voice search is presented in [1]. It was observed that people most often use the voice search while driving (52.8%). The circumstances under which the voice search is used in connection with the local business – 45% is observed for all searches, that are directed to get address, direction, phone number or the opening hours. The searches are made for different business types – restaurants/cafes (51%), grocery stores (41%), food delivery (35%), etc. The survey presented in [2] shows that the most commonly used device for the voice searches is the mobile phone (90%) and next are the smart speakers (14%). The Voice searches are mostly done at home (92%), more rarely in the car (29%) and in the office (16%).

The standard internet keywords are words or phrases that serve to correlate with the words or phrases that the users, searching for information, want to find. The keywords play an important role in building and developing search engine optimization (SEO), together with the ranking factors, used by the search engines. Google uses 200 ranking factors [3], from which about 10 have the biggest impact [4, 5].

Search engine optimization is the process of improving the visibility of a website through organic results, by optimizing the site structure, text, and codes. It is fundamental for building a digital marketing strategy and is an integral part of the development of any business. Search engine optimization is the most cost-effective and reliable method of positioning at the top of a keyword search [6]. Traditional search engine optimization methods largely involve the use of keywords at almost every stage of development. The selected keyword must be contained in all texts as well as titles, page permalink, meta description, and image ALT texts. In this way, the ranking of the website in the search engine results will reach higher positions [6].

This paper considers some questions about how the voice search is different than the traditional optimization methods, the impact of the voice searches on the search engine optimization and what are the beneficial effects it provides to users. Providing the ability to search using voice commands brings a whole new perspective to search engine optimization.

2. Voice search

With the advances in the technology, the voice searches and chats are also increasingly being used. According to the users, the voice searches give new possibilities for communication with devices and search engines. Besides the mobile phones, the connected devices and the smart speakers, more than 49% of the users of the most popular voice assistants, Google Home and Amazon Echo, consider them as a necessity, which makes their everyday lives more comfortable, easy and secure. The voice search has evolved from voice recognition to voice understanding and it is gradually adopted into people's daily lives. This makes looking at voice search optimization criteria as a necessity when building SEO.

There are hardly a few people write as they speak, especially when they are entering search queries. Typically, the voice search queries are longer than the text queries and they use conversational language. If the query should be written, a shortened version of the question is usually used in the search field, for example "Sofia weather". While speaking, it is more likely to ask the overall question: "What is the weather like in Sofia?". Programs like Google NOW, Siri and Cortana are becoming more and more popular. They are developed to make natural phrases more understandable for search engines, using artificial intelligence. They can correspond and interpret correction in the speech. For example, the misinterpreting of a voice search in Google can be corrected by spelling the word(s).

The voice search action sequence is presented In Fig. 1. Every time the user makes a voice search inquiry, the voice search assistant goes through the following steps [6, 7]:

- the filtering of the background noises for clearing the voice search,
- digitization of the sound signals into digital data,
- the voice analysis includes processing of the digital data and performing the voice analysis.
- connection to external sources, like Google Search, to deliver relevant answers after translating the information,
- the pattern recognition includes the comparing of the search keywords with the existing samples in different databases.

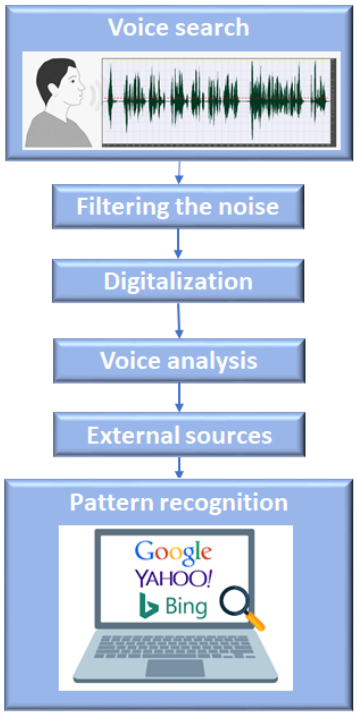

Fig. 1 *Voice search action sequence.*

Automatic speech recognition (ASR) is one of the ways used to transform acoustic speech signals into text [8, 9]. ASR systems have only been developed for a few of all spoken languages.

3. Optimization of websites for voice searches

When using a voice search, the user can have several types of intent: to make a reservation, to make a call, to buy something, to listen to a song or watch a video, to find specific information on a topic or to ask a question. The first step in optimizing for voice search is to determine *research intent*. Instead of relying on impression, tools like Answer the public [10] are used to tell what questions are being asked about a topic.

Another important thing for the voice SEO is to focus on the type of the questions in the voice searches that are different from the organic searches, which use keywords and affirmative sentences. *Question phrases*, like "what", "how to", "how", "when", "who", "where", "why", etc. that are usually at the beginning of the question are of great importance for the voice SEO and around them the voice optimization cab be built. When the users make organic searches from a computer or phone, they typically use short sentences and go directly to the question. For example, when a user searches for the best sushi restaurant in Sofia, they will type "the best sushi restaurant Sofia" but when using voice search they would say: "What is the best sushi restaurant in Sofia?" Such question keywords can be used for making classification to understand the users, for the expected actions of the users and what are the intents of their searches. For example, the users who ask "how to" seek for instructions or training on a specific topic, action, subject, or field. Answers to such questions in the website content can be a way toward the first place of the results from the voice search, which give an accurate information about the problem of interest by the users. By answering the questions and the needs of the users there is an opportunity to generate a lot of traffic from voice searches to our websites. A way to put such information in the website content could be the organization of a section – "*frequently asked questions* – FAC" and putting answers of the most frequently asked questions in the content of the existing page.

Natural keywords are favored for voice search optimization, compared to the shorter phrases that perform better for the organic searches. To ensure that the website content is optimized for a voice search, it should include *long-tail keywords* that are more "natural" rather than shorter and more memorable keywords that perform better in traditional search results.

Another important element is the *comprehensibility of the content*, using expressions that users are more likely to use in a voice search would have an advantage. The sentences should be kept short and simple. Even complex content can be broken down so that it can be easily understood by anyone as long as it is coherent and well structured. Long articles are always ranked better by search algorithms regardless of whether they are voice or organic. It is recommended to have 1000 to 2000 words on a specific topic to meet this readability criterion.

Responsiveness is more than ever a major factor in leading rankings in organic user search. As with organic search optimization, it is very important that sites load quickly, have a security certificate (SSL), Google ranks this type of site in a higher position. The need for an adaptive design that allows the site to be viewed on *any type of device* should also not be underestimated, it is one of the main criteria in SEO. Optimizing the *size of images* is the main point for making any web page *load faster*. Images are the largest elements on a site, if their size is not appropriate for their purpose on the web, it can cause the site to slow down and rank worse in search engines. Google PageSpeedInsight is an exceptionally useful software product, which gives summarized information about the need for improvements on a given webpage.

Local business advertising or *local SEO* has undertaken a rapid development in the recent years. There is a growing number of local companies that use tools such as Google My Business that enable businesses to provide comprehensive information about their activity as well as their location. Currently they are grouped in three main categories for our location - restaurants, grocery stores and services. When it comes to a voice search, the locations and businesses close to the user's location are often considered. Which makes Google My Business a unique tool for putting businesses on the map. Optimizing a website for a voice search gives a great local advantage, bringing users together in your area.

The goal of any optimization is the so-called *position zero* or quick response, which is a part of the summary of the webpage. On the desktop, this zero position is immediately after paid ads and gives the best position in the search networks. In order for a website to rank there, a brief *summary* of the information found on the site, approximately 30 words, must be included. Those paragraphs that use *Hn tags* are easily recognized by Google and give good results when initialized by search engines, in combination with the keywords and key phrases and questions, good results can be expected in voice searches [11]. Google usually gives the voice search answers from top-ranking pages, which gives an advantage of already optimized websites for traditional organic searches.

Conclusions

With the advancement of digitalization and the development of search engines, an important step in the future and the competitiveness of businesses is to pay attention to the optimization for voice searches. The basic advantages from the application of voice searches are: the voice search process is faster and more efficient, the users receive a prompt response to their queries including some additional information, the searches are leaving the hands free, allowing to combine the simultaneous fulfillment of several tasks. The voice search is available up to now in about 30 languages.

A key point in vioce SEO is to consider that there is a difference between a traditional search for information by typing a keyword and the entire question in the voice search. Also, an important point in the voice search optimization is the user's location. With its help, the classification of the search results upon request (e.g. by the keywords "near me") can be carried out, based on the closest locations to the user.

In this paper in order to optimize the websites for voice searches, are considered several approaches:

- to use website content closer to the spoken language, with shotrer centences and including question phrases (eg. in FAQ section),
- to use long-tail keywords,
- to ensure fast loading of the content on any kind of device,
- to use local business advertising by Google My Business,
- to use Hn tags including summary for the website, organization, etc.,
- to keep the ranking from traditional searches high.

References

1. A. Zarudnyi, *Voice search and SEO* (2021) https://seranking.com/blog/voice-search-seo/
2. A. Loode. *The impact of voice search on search engine optimization*. BSc thesis (2019)
3. B. Dean. *Google's 200 Ranking Factors: The Complete List* (2022) https://backlinko.com/google-ranking-factors
4. B. Dean. *Search Engine Ranking Factors* (2019) https://backlinko.com/hub/seo/ranking-factors
5. C. Ziakis, M. Vlachopoulou, T. Kyrkoudis, M. Karagkiozidou. Future Internet, **11**, 32, (2019)
6. Google Developers, Google Search Central, *Search Engine Optimization (SEO) Starter Guide* (2021) https://developers.google.com/search/docs/beginner/seo-starter-guide
7. T. Pepper. *Understanding voice search optimization & its impact on SEO* (2023) https://www.peppercontent.io/blog/understanding-voice-search-optimization-its-impact-on-seo/
8. V. Bhardwaj et.al. Applied Sciences, **12**, 4419 (2022)
9. IOSR Journal of Computer Engineering, **19**(5), 71-79, (2017)
10. Answer The Public website, https://answerthepublic.com/
11. L. Chevant, *6 recommendations to improve your SEO positions on voice search* (2022) https://smartkeyword.io/en/organic-search-vocal-search/