



13th International Conference Interdisciplinarity in Engineering (INTER-ENG 2019)

## Artificial Intelligence Solutions for Digital Marketing

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### Abstract

The technological evolution of recent years has put the industries on the move. Marketing has reached a point in its evolution where adapting to digital trends is an imperative. Although it seems to be a push for marketers, in fact, all automated applications and systems that are based on artificial intelligence only diminishes the complexity of classic targeting and customization processes. In many situations, the platforms used for online promotion contain algorithms for identifying the best combinations, in other situations the companies take initiative to develop and implement in-house customized systems. The authors aim to describe the current state of artificial intelligence in marketing processes and to provide a four step sequential model that uses an intelligent marketing solution that can improve the visibility of a website through keywords.

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Peer-review under responsibility of the scientific committee of the 13th International Conference Interdisciplinarity in Engineering.

*Keywords:* artificial intelligence; intelligent marketing; marketing personalization; process automatization; deep learning.

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### 1. Introduction

Artificial Intelligence (AI) will change how keyword research is done. Artificial Intelligence will become more ubiquitous so that Search Engine Optimization (SEO) specialists understand the knowledge about automated learning and automation.

An increasing number of people are beginning to target the vocal search option, so SEO professionals will have to adapt to this relatively new search. A difficulty is due to the fact that voice requests differ from regular queries,

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and then the keyword research process will most likely change. Voice Search does not just contain more words, but it can also be better targeted to what a user is waiting for.

Keywords are, alongside other components, one of the most important elements of a suitable SEO strategy, whether it's an online business or a presentation site.

Keywords are phrases, phrases and keywords used by the user to find the site in search engines. Basically, an optimized site needs to be spoken in the people's language, using the same keywords as users in content, metas, Alt-text of images etc.

In this changing environment, one of the few things that have remained constant is studying the keywords, finding the most appropriate and relevant words to identify the site of a certain business. The need to find the keywords has remained the same, but the way it is done has evolved.

By studying the keywords used on a specific market, it is not only possible to determine a pattern of terms and phrases that should be thrown into SEO strategy and more can be determined about potential clients: desires, needs, expectations, interests etc.

The most important thing is to attract interested visitors with great chances of conversion. The keyword study allows to anticipate changes in the marketplace, adapt to these changes, and create products, services, offers that are continually searched for by users.

This article makes a research to highlight the current stance of digital marketing and whether there are researchers who have approached the inclusion of voice search in marketing or keyword identification methods. Starting from the tendency to include voice search in digital marketing, the authors propose a four step model to determine the relevant keywords for a company. These are one of the basics to make a voice search.

## 2. State of the art

Through social media analysis, in paper [1] is illustrated the negative impact of digital marketing when it is not done optimally. The paper discusses the used analysis methods related to keywords, hashtag, emotions to generate user content. In order to validate the findings, the authors conducted a qualitative case study to highlight both the advantages and disadvantages of the Search Engine Marketing (SEM).

In [2] are investigated the factors that can influence these engines using user experiences on a web page, both internally and externally. Thus, the authors have documented the SE classification factors following a large survey conducted by companies in the digital marketing segment.

The future identification of human emotions and communications by devices that have AI in order to be able to respond to human demands and generate appropriate responses are debated in [3]. Searches become so smarter due to the integration of chatbots, and the relationships between cars that hold AIs and merchants are debated by the author.

Factors as a site to be excerpted in Google Answer Box are being researched in [4]. A simulation is used to examine the occurrence weights in the final page generated by searches on Google. Through the framework of factor assessment, different keywords can be identified to help achieve marketing strategy to increase visibility.

Automating marketing is a step towards better business results. Thus in [5] is presented the role of AI in personalizing marketing strategies, offering through its use a better view of the merchants regarding the clients. Relationships between the company and users are more in-depth and become natural.

The complex decisions faced by specialists when they want to implement a marketing campaign is discussed in [6]. An automatic keyword generation method is proposed, based on the consumer search behaviour theory, and it is used an internal search log for the site to extract them. The approach is empirically tested, and the results are positive.

To research SEO, keywords, content, in article [7] is performed an independent analysis and presents the Google Analytics certification process as well as the PageRank algorithm owned by Google. It uses a linguistic and mathematical approach to highlight how they work in an ever-changing environment.

An analysis of past and current investments for each marketing channel is made in [8]. Based on the results obtained, a new investment is proposed as a marketing budget using a scoreboard and storing the information in a marketing database.

A great importance for identifying a website is its ranking in the top of Google search queries. The research in [9] talks about including the SEO tool to increase traffic within the website that leads to increased sales and turnover. The research was focused on the interconnection between SEO and SEM, focusing on the impact of keywords in digital marketing.

For a proper web presence of any business, search engines have an essential role, and the algorithms used by them have evolved over time.

In [10] the author talks about the role of technology and smart devices in marketing campaigns to promote products and services. The proposed product offers interactive voice applications that facilitate the acquisition process of the potential client.

Researchers in [11] determine a keyword reversal method to expand their list with the aim to solve the issues of SEO processing. By analyzing the key factor that impacts the keywords of the competition, including data history, the research focuses on real-time and automated SEO analysis to improve its processing.

### 3. Methodology

Taking into account also the previous mentioned issues, in order to determine the keywords on which the search will be executed on search engines by using any type of device that has a valid Internet connection, the following sequential model consisting of 4 steps was proposed (Fig. 1):

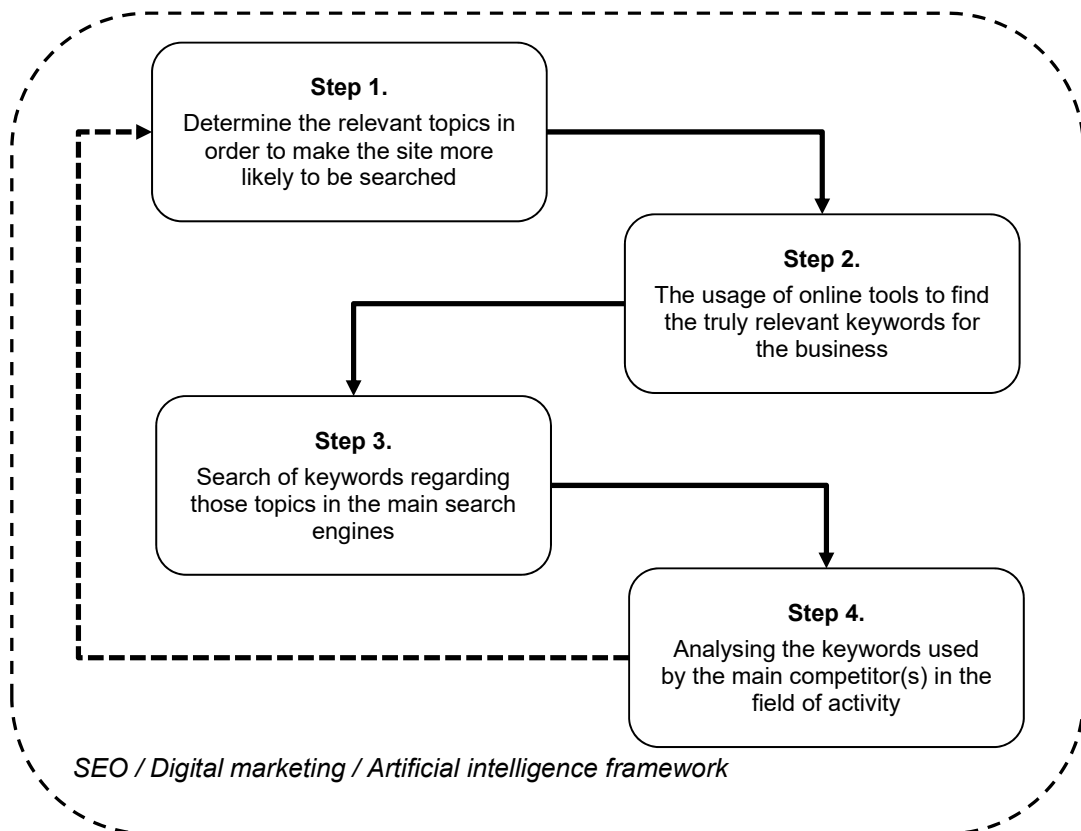


Fig. 1. The proposed four step sequential model.

*Step 1. Determine the relevant topics in order to make the site more likely to be searched*

Initially, the semantic fields and groups in which the keywords are structured will be established. The simplest is to use the names of the product or service categories.

Keyword lists are made with the name of each category of products or services traded. Moreover, it is not necessary to take into account only the categories that exist in the site. It outlines an ideal client profile - Buyer Persona and attaches a range of keywords that he would use to search the site.

By using <Google Sheets> in Google Drive, it is possible to create a new Excel spreadsheet. For each category, one tab is created at the bottom. The advantage lies in distributing the document to any person involved in the process and can change at any time, keeping an updated version every time they work in it (Fig. 2).

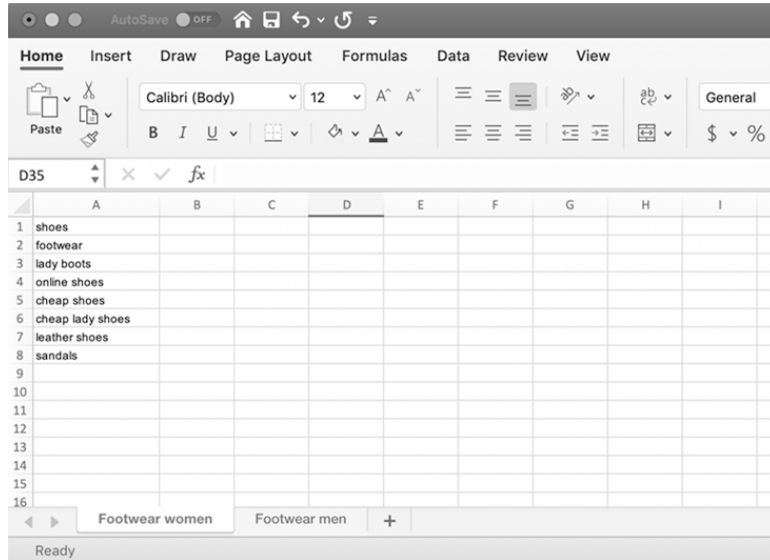


Fig. 2. Keyword list using Microsoft Excel.

*Step 2. The usage of online tools to find the truly relevant keywords*

The most well-known and used online tool for finding keywords is Google Keyword Planner. By owning a Google AdWords account, the "Keyword Planner" option can be used. As an example, for “ladies’ shoes”, 801 results / keywords were obtained (Fig. 3), but additional information about each word, such as its competitiveness, monthly searches, approximate Cost per Click (CPC) etc.

Keyword (by relevance)	Avg. monthly searches	Competition	Suggested bid	Ad impr. share	Add to plan
online women footwear	1,000	High	RON0.73	-	»
online women shoes	880	High	RON0.69	-	»
leather shoes	2,900	High	RON0.63	-	»
cheap footwear	3,600	High	RON0.46	-	»
footwear women	2,400	High	RON0.62	-	»
women slippers	1,900	High	RON0.55	-	»
clothing women	2,400	High	RON0.66	-	»
nice shoes	1,600	High	RON0.51	-	»

Fig. 3. Keyword Planner results.

From the list displayed, it is possible to select the desired keywords because there are also negative keywords for which the site should not be found. For instance, if new footwear is sold, it is definitely not going to appear in the results for "second hand shoes".

To export the selected keywords, we can click <Download> and choose the preferred format from the available ones. Keywords in Keyword Planner will be copied to the previously created table.

The list should also include keywords that contain the name of the brand, the name of the products / services sold, terms from the same semantic field (shoes, leather, heel, boots etc.) or terms of complementary products footwear.

A good strategy for keyword search is checking everyone in Google Trends to see the evolution and seasonality over the year (Fig. 4, Fig. 5 and Fig. 6).

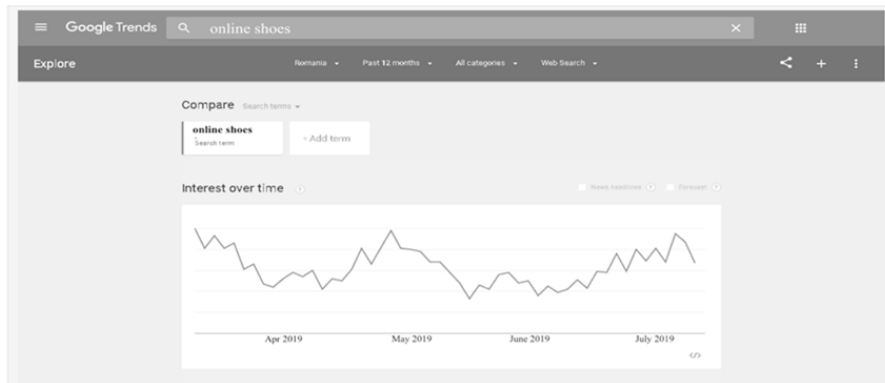


Fig. 4. Google Trends results regarding interest over time.

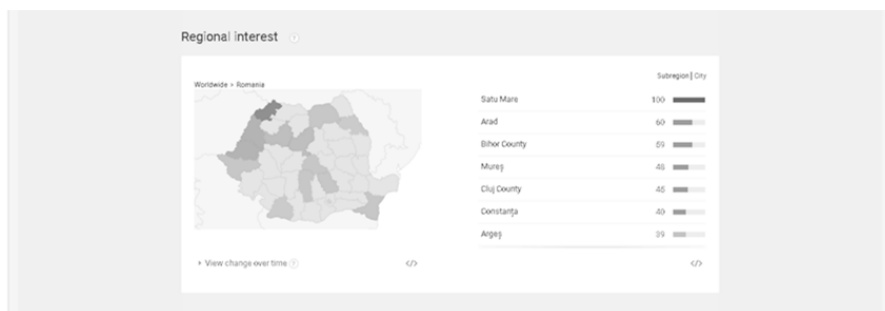


Fig. 5. Google Trends results regarding regional interest.



Fig. 6. Google Trends results regarding related searches.

Keyword Planner is not the only online tool that can be used to find relevant keywords, there are many others, like: Ubersuggest, Keyword Tool, Soovle, SEMrush (Premium), Wordstream Keyword Tools (premium), MOZ Keyword Difficulty (premium), each with its own advantages and/or disadvantages. Therefore, choosing one over the other is down to personal preference and previous experience.

### *Step 3. Search of keywords regarding those topics in the main search engines*

Once the list of results from the above tools has been completed, it is checked in the search engines and identifiable possible long-tail words that can be used in the content. Long tail phrases are longer phrases with at least 3 words.

The idea is not to make the final list of all the right keywords, but to think of possible phrases that potential customers use to find the products / services that are sold.

Google Search Console can be used to discover the keywords on which the site is already searched for and found. Attention should also be paid to internal searches on the site, as well as comments on the blog on Social Media pages. These can be a valuable source of information, from which it is possible to find both keywords and customer data.

Another channel where relevant keywords can be found, similar to those identified by this third step, are searches on Google. For example, for “ladies’ shoes”, a search was made on Google and similar keywords (Fig. 7) were found at the bottom of the page.



Fig. 7. Searches conducted on Google using keywords

### *Step 4. Analysing the keywords used by the main competitor(s) in the field of activity*

Even if competing firms are addressing certain strategies, that does not mean they must be used and are generally valid for any company, regardless its field of activity. This is also the case for the relevant keywords.

Even if a keyword is important to the competition, it does not mean it is important to the company in question. Instead, if we understand why it is so important to the competition, it will be easier to evaluate the lists made up to this step.

Thus, it is determined why certain words are not ranked, especially if competing organizations have some authority and experience in the field. Identification of the specific keywords that are ignored by them, and perhaps then optimizing the content around those ones.

In order to be discovered, an incognito search can be done, in order to see where the competition is situated. If it is desired to illustrate the statistics of how the competition ranks, SEMrush can be used; it allows the submission of a number of free reports with certain words that ranks the site that has been entered in the search box.

Knowing the keywords used by the main competitor(s) and maintaining a balance between optimizing them and optimizing those that are ignored, helps to keep in mind that there is a balance between short-tail and long-tail keywords.

#### 4. Conclusion

The Artificial Intelligence component of a software product should be able to make it able to learn to improve itself permanently. Machine Learning is dedicated to providing software with the ability to learn; this goal can be achieved by using algorithms that identify patterns in the data received and, depending on them, the software system makes decisions or makes predictions. In the modern marketing industry, following the implementation of intelligent algorithms, today has grown a sub-industry branch called automated marketing.

Digital marketing is linked to the latest technology trends. Thus, the authors' results in this article show the shift from digital marketing to intelligent marketing through the use of artificial intelligence, which has begun to capture more and more areas.

The methodology consisted of a research aimed at highlighting new trends in digital marketing, namely the use of keywords and their importance for having a sustainable business. The authors also proposed a four step model with the aim to determine keywords and integrate them into the visibility of the website through SEO techniques. Identifying the proper keywords will help further to integrate also vocal search on Google because long or ambiguous phrases spoken with many accents can become an obstacle in finding the products / services that are desired.

The authors' contribution consists in researching and organizing information regarding the use of artificial intelligence in the field of marketing, which is beginning to evolve. The originality element is brought by proposing a sequential model of determining the proper keywords used in the SEO process in order to obtain an intelligent, personalized and automated marketing.

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