

**Czech University of Life Sciences**

**Faculty of Economics and Management**

**Department of Management**



Diploma Thesis

**CORRELATION OF SEO WITH SERP**

Kartikeya Bhardwaj

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## Declaration

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In Prague on date of submission

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# CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

## DIPLOMA THESIS ASSIGNMENT

Kartikeya Bhardwaj

Systems Engineering and Informatics  
Informatics

Thesis title

**Correlation of SEO with SERP**

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### Objectives of thesis

The diploma thesis aims to analyze relevant secondary data on Marketing Management, Marketing Communication, SEO and SERP. This analysis will be combined with original primary reconnaissance aiming to analyse current state of SEO and SERP and suggested improvement suggestion for particular company, based on own research.

### Methodology

“Literature Review” part will be elaborated based on relevant secondary data analysis and synthesis.

“Analysis” part will result from relevant secondary data and original primary reconnaissance combination.

Recommended structure:

1. Introduction
2. Goals and Methodology
3. Literature Review
4. Analysis
5. Results and Discussion
6. Conclusions
7. References
8. Appendices

**The proposed extent of the thesis**

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**Keywords**

Marketing Management, Marketing Communication, SEO, SERP, Market Research

**Recommended information sources**

- BRADLEY, N. Marketing research : tools and techniques. Oxford: Oxford University Press, 2007. ISBN 978-0-19-928196-1.
- GOSLING, S D. – JOHNSON, J A. *Advanced methods for conducting online behavioral research*. Washington: American Psychological Association, 2011. ISBN 978-1-4338-0695-7.
- KANUK, L L. – WISENBLIT, J. – SCHIFFMAN, L G. Consumer behavior. Boston: Pearson Prentice Hall, 2010. ISBN 978-0-13-700670-0.
- KELLER, K L. – KOTLER, P. Marketing management. Harlow: Pearson, 2015. ISBN 9781292092621.
- PERREAULT, W D. – CANNON, J P. – MCCARTHY, E J. *Basic marketing : a marketing strategy planning approach*. [New York]: McGraw-Hill Irwin, 2014. ISBN 978-1-259-06076-2.
- SCHIFFMAN, L G. – KANUK, L L. – WISENBLIT, J. *Consumer behavior*. Boston: Pearson Prentice Hall, 2010. ISBN 978-0-13-700670-0.

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## **Abstract**

The research has considered development of a relationship between the SEO and SERP considering SERP as the result of the SEO. The research has enabled development of the understanding of the links between these two and how it helps in producing effective operations based on such lucrative potential of the search engine optimization functions in all. This regards the development of the potential of the conjoined functions of such aspects into operations. The research here has used both primary and secondary methods of data collection that would be helpful to understand the practical stance of functioning of the SEO and how they are being implemented by the business organizations all over the world to derive market reachability. The research outcome has shown that greater efforts put to derive the potential to develop SEO results in better SERP and the relationship of correlation is positive.

Keywords: SEO, SERP, social media, marketing, advertising

## **Abstrakt**

Výzkum se zabýval vývojem vztahu mezi SEO a SERP s ohledem na SERP jako výsledek SEO. Výzkum umožnil rozvoj pochopení vazeb mezi těmito dvěma a jak pomáhá při vytváření účinných operací založených na takovém lukrativním potenciálu optimalizačních funkcí pro vyhledávače ve všech. To se týká rozvoje potenciálu spočívěných funkcí těchto aspektů do provozu. Výzkum zde používá jak primární, tak sekundární metody sběru dat, které by byly užitečné pro pochopení praktického postoje fungování SEO a jak jsou prováděny obchodními organizacemi po celém světě, aby odvoditelné tržní dosažitelnosti. Výsledek výzkumu ukázal, že větší úsilí vynaložené na odvození potenciálu k rozvoji SEO vede k lepšímu SERP a vztah korelace je pozitivní.

Klíčová slova: SEO, SERP, sociální média, marketing, reklama

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# 1 Introduction

Companies want to expand their reach among the masses. Search Engine Optimization (SEO) increases the visibility of a website by increasing its web traffic. It refers to unpaid direct results and paid placements. SEOs help to rank the company higher in terms of search engine searches. It is very helpful to spread awareness about a brand. When a user searches any query on a search engine like Google, the pages that open are called Search Engine Result Pages (SERP). This page displays some paid and some organic (unpaid) results (www.ahrefs.com, 2020). A user almost never goes beyond the first page of search results. This is why everyone wants to appear on the first page. The top three search engine results usually get 75.1% of the user clicks. Paid pages push organic results down by a few pages. 39% of the user clicks go to these paid websites. The most-relevant pages show up on the first page of SERPs. Companies want to appear on the first page of SERPs to make their brands popular. Tech giants like Google, LinkedIn, Facebook, etc have certain ranking factors to filter out thousands of search results. Search visits, number of Facebook shares, keyword in title, keyword in the meta description are some of the ranking factors (www.link-assistant.com, 2020). It is not possible to know all the rankings. However, companies can improve their characteristics to show up on the first page of SERPs. There is a correlation between the results displayed on SERPs with the SEO traffic.

It is common knowledge that you would not be able to grow your business online without generating leads. Many users would abandon a page if it takes a long time to load. Thus, website owners need to improve their page functioning. This would increase their website traffic, thus generating more SEO results on SERP. There is a direct relation between the SEO and SERPs. Search algorithms meet a high rate of quality and relevance. It goes through millions of searches to filter out the final results displayed on the first page of SERP. It might seem to be a Herculean task to get one's website on that first page. However, it is possible. The website has to be updated frequently. The visual content has to be formatted properly. Websites with proper images have a greater chance of succeeding. The Google search algorithm searches through whatever input the user generated. The website must have tons of keywords in different formats of search query to fit the search results. Google search algorithms also use something other than the meta descriptions to produce search results. Using outbound links is another way to increase web traffic.

Contemporary organizations often do not have a huge budget. They cannot afford to send out paid traffic. To generate SEO traffic, they have to rely on making their content better. There is a correlation among SEO and SERP. However, it is questionable whether these two are connected or not. There are several Google search algorithm guidelines that one does not know of. This paper examines this correlation to generate profits for contemporary companies.

## 2 Goals and Methodology

### 2.1 Goals

#### Research aims and objectives

The aim of the research lies in depicting the existing correlation between SERP and SEO and their utility in expanding scope of profitability for organization. Thus, it leads to the analyses of the relevant secondary data on Marketing Management, Marketing Communication, SEO and SERP.

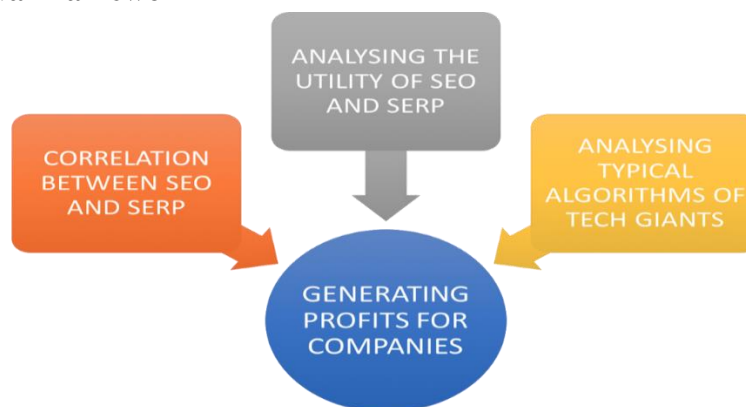
#### 2.1.1 Objectives

- To combine the analysis with original primary reconnaissance aiming to analyse current state of SEO and SERP
- To suggest improvement suggestions for company based on own research

#### 2.1.2 Research question

- Is there a relation between SEO and SERP?
- How has SEO expanded the scope of digital marketing and business profitability?
- How are paid advertisement campaigns by Facebook and LinkedIn influencing the relative revenue structures?
- How has ON page SEO and OFF page SEO been impacted through the improvisation of advanced SEO tools?

#### 2.1.2.1 Conceptual framework



**Figure 1. Conceptual framework of the research**

(Source: Self-developed)

The companies are looking to make a profit. To sell their products, they have to familiarize their brand name among the masses. Nowadays, people circulate most of the information online. However, there are only 6 to 7 organic results displayed on the first page of SERP. It is not feasible for most start-ups to pay to display their brand name. The real competition is to display their brand name among the first page. Most users click on whatever is displayed on the first page. There is a correlation among the SEO traffic generated on a website and the chance to be featured on the first page of SERP. This conceptual framework shows that in order to generate profits, this correlation has to be given importance. This three-fold structure shows that the utility of this correlation would be examined in this paper. The Search Algorithms used by prominent search engine browsers are not revealed. However, most popular search engines place a lot of importance on relevance, quality and top content. This framework examines these factors to generate profits for the emerging companies.

## **2.2 Methodology**

SEO (Search Engine Optimization) and SERP (Search Engine Results Pages) are the most commonly and frequently used terms in recent times. The Internet has become a very important part of our daily lives, be it at home or in any business organizations or offices or banks. In today's world, the role of the internet is inseparable from our lives. SERP refers to search engines like Google, Yahoo, Bing, etc. which are used by users every day to search for anything on the internet. When a user searches something on the internet, they generally do not check the thousands of search results. Users only prefer seeing the most relevant search results which the search engines provide after sorting them algorithmically. SERPs determine how a website would be on the first page of the search results (Kaya, Keceli, Catal & Tekinerdogan, 2020). SEO is an organic strategy by which the page visibility of a particular website can be increased so that that website gets a place on the first page of the search results.

Research was intentionally conducted throughout three months from June to August by gathering the data from social media platforms such as LinkedIn, Facebook and others. Primary data was collected by conduction of online form in social media platform through which only web-developers and web-based marketers' groups were selected as the pool of main respondents who

filled in the form to give their contribution to this study. As the preferred online social media platform, Facebook and LinkedIn were chosen as the most preferable where tense of web-developers and web-based marketers' groups were selected and filled in the questionnaire. Respondents were mainly aged 18-34 who are mostly active on web developing and advertising using online platforms. Created online form with different themes consisted of 14 SEO and SERP-related themes that mainly aimed at Indian web-developers and marketers. Concerning the secondary data method, already existing data was collected from reliable sources of journals, web reports, book, and other sources of mostly 10 and 15 years old. Secondary data sources were mainly used as supportive backup for conducting the study in both parts, practical and theoretical part.

### 3 Literature Review

SERP or Search Engine Results Page are the webpage results which are shown to a user when they search anything in a search engine like Google, Bing, Yahoo etc. When a user types a search query in a search engine, they are never interested in scrolling through thousands of SERPs. Instead, they prefer the search engine algorithm to get them the properly sorted and most relevant webpage results that would best answer their question. SERP can be referred to as the SEO (Search Engine Optimization) which is a process by which the traffic and visibility of a website can be increased to users who search in the search engines. Search engines like Google and Bing can be described as the librarians of the internet. They collect information from every web page so that they can help people with the exact results they are looking for. Every search engine works on some specific algorithms which helps in much faster and appropriate search results. Search results depend on the rank position of the webpages. The key to higher ranking depends on the information that the website has. This process of searching is called SEO. Search algorithm works on some basic key points:

- Words: Search engine accounts for every word in the website.
- Titles: Each page on the website has an official title, which stays in the code and hence we cannot see it. Title is important as it summarizes the content of the webpage just like a book's title.
- Links: Links between websites matter. When one web page recommends the other, it's usually a recommendation telling the users that site has relevant information. A web page with many links coming to it can look good to search engines.
- Words used in links: The words which are used in the links also play a vital role. For example, if someone wants to purchase shoes and searches for shoes in the search engine, the website which sells shoes will rank well in the search results.
- Reputation: Search engines care about reputation. Websites with a consistent record of fresh engaging content and growing numbers of quality links might do well in search rankings.



Good SEO is all about making sure that the website has great content, which acts as the main ingredients as their primary tool. The most famous search engine, Google was co-founded by Larry Page and Sergey Brin and officially SEO began a bit later in 1997. Slowly, Google began mixing traditional organic search results and other types of vertical results like news, video, and images. Thus, this became the biggest change to Google search – and SEO.



**Figure 2. SEO application**

(Source: Self-developed)

SEO refers to the process of improving a site's chances of visibility to relevant searches; on the other hand, SERP is the result of the search made through the SEO. Now the question that arises is how does this work?

Different search engines use programmed algorithms to monitor different pages on the web and collect information about them. Still, the point here is to put them in an index, determining the correct order for these is a crucial part for a website or anything that is on the web because it is the source of primary traffic for them, ranking higher in a search engine result page(SERP) can bring

a drastic impact on a business. However, over the past few years, the SERPs have also evolved with humankind. Results have been optimized and direct to lose traffic.

Threats from engulfing utilities of SEO and SERP:

Unfortunately, there is a negative side to everything in this world, and SEOs are no exception. Some of the standard and significant threats of this road are -

**Getting blacklisted:** If a site is detected to be containing malware then the search engine will provide a warning message to the visitor before the site opens. If the malware remains on the site for too long without any action of the site owner, then the site might get removed as well.

**Content scraping:** When people or bots copy content from a website to create their own site. This might reduce the SEO ranking of a site and the sad part is if hoppers hop into that duplicate site first they'll prefer that to the original one and if Google or any other search engine reaches that earlier then they will penalize the original and put them further below in ranking.

**Lack of SSL certificate:** Search engines checks for SSL certificate before ranking sites. It is important for a website to have because it makes sure that the credentials of the users are safe while surfing. Users can check for SSL certification of a website by noticing whether the URL is starting with http and a padlock sign or not. SSL certificate secures the site by encrypting it and without it the site is very easily accessible to cybercriminals.

**SEO poisoning:** It is the most common technique used by data thefts and cybercriminals to steal Data from users. They use different techniques to rank up their websites so that users click on their link and wrap themselves up in the traps. Cybercriminals set up malware in their sites to steal the information out. Hence, a user should always use the latest version of a web browser because the updated versions keep records of different types of new threats and also warns the user before opening an unsafe site. Users should also install anti-virus software to get a warning pop-up before entering a site with bad code.

### 3.1 Research Approach

The research approach is defined as the planning and the research procedure which is to be used for data collection, analysis, and interpretation of the research data (KauttoErnberg, 2019). The overall decision involves which approach should be used to study a topic. It includes assumptions about the details of the research analysis.



**Figure 3. Components of research approach**

(Source: Boddy, 2016)

The research approach is divided into two categories:

- **Data Collection**

Data collection refers to the complete procedure of collection and analysis of the data samples. Data collection is further subdivided into two parts-

- **Qualitative Approach-** This type of research is expressed in words. It is said to be a detailed in-depth study and research on the topic (Konidaris & Koustoumpardi, 2018). No numbers or numeric values are used in the qualitative approach of data.
- **Quantitative Approach-** This type of approach involves the representation of research data in numbers, numeric values, and graphs. It is the statistical study type of research.

In this research work, both qualitative and quantitative methods of data approach are used to understand both the statistical and detailed correlation between SEO and SERP.

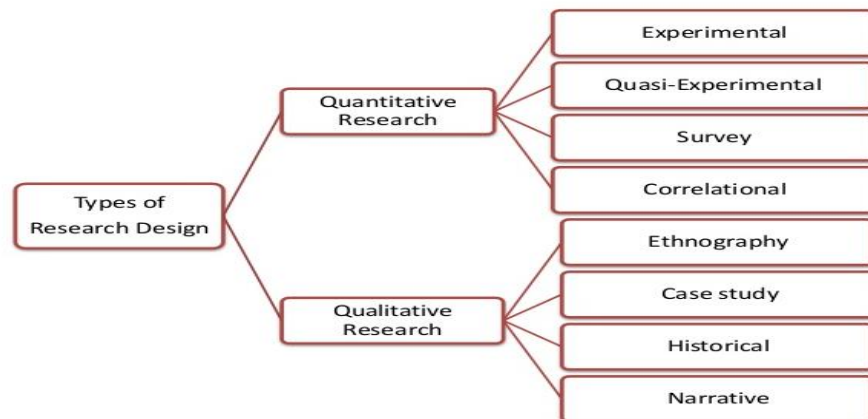
- **Data Analysis**

Data analysis is one of the most crucial steps of the research approach. It helps minimize large data size to smaller parts which become easier to interpret. Data analysis is further subdivided into two parts-

- **Inductive-** Indicative data analysis helps in deriving concepts from raw data with the help of a research evaluator.
- **Deductive-** Deductive data analysis refers to developing theory and hypothesis and analyses the data to test the hypotheses.

In this dissertation, deductive data analysis is used to generate a hypothesis of the correlation between SEO and SERP.

### 3.1.1 Research design



**Figure 4. Types of research design**

(Source: self-developed)

The research design refers to the overall steps and procedures undertaken to carry out the research work. Research design helps in identifying and reviewing the problems faced during the research work, describe the data collected for the research work, describe the research analysis method in determining whether the hypotheses are true or false (Cole & Trinh, 2017). A proper research

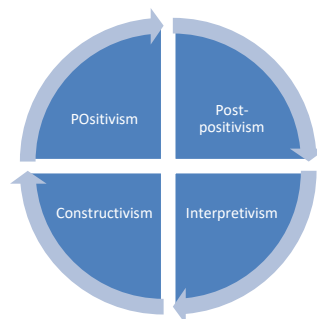
design helps in a successful and unbiased research result. Research design has certain characteristics, as follows:

- **Reliability:** The research design should be reliable and should provide the expected results.
- **Generalization:** The research design should be such that it will be applicable anywhere. Hence, a generalized design is always preferred (Paradis, O'Brien, Nimmon, Bandiera & Martimianakis, 2016).
- **Validity:** Multiple tools are used in measuring the research results and only after that, the research work is considered valid.
- **Neutrality:** The results of the research should always be neutral and unbiased.

Research design can be depicted in graphical or numerical form or in a detailed explanatory form. Both ways work fine as long as the research gives an unbiased result. The research design is the pillar of any research work (Gu, Zhao, Chen & Jiang, 2020, January). The research design determines which tools are to be used in the research work and how. Research design can be classified into four types:

- Correlational
- Experimental Research
- Descriptive
- Causal-Comparative/Quasi-Experimental

### 3.1.2 Research philosophy



**Figure 5. Types of research philosophy**

(Source: Self-developed)

Research philosophy is divided into 6 major parts which help researchers decide which approach to adopt to process the research work. The types of research philosophy are-

- **Epistemology:** It is the branch of philosophy that is involved in the knowledge of the research study. It is further classified as:
  - **Positivism**
  - **Interpretivism**
  - **Realism**
- **Ontology:** It is the branch of philosophy that deals with the “study of being” and of what is there in the world about which humans can study (Sim, Saunders, Water-field & Kingstone, 2018).
- **Axiology:** It is the branch of philosophy that deals with the branch of aesthetics, ethics, and judgments.

From this, we can shortly say that the quantitative research type is based on positivism and the qualitative research type is primarily based on interpretivist.

In this research study, we have used the epistemology type of research philosophy as it involves knowledge-based research.

### 3.1.3 Sampling technique or method of sampling

While doing any research work on many people, it is nearly impossible to collect data from each and every person in-person. In those cases, it is advisable to collect a sample that includes a particular number of people on whom the research is done. Here, sampling is done on 5 people to understand the correlation between SEO and SERP (Boddy, 2016).

Sampling techniques are categorized into two types:

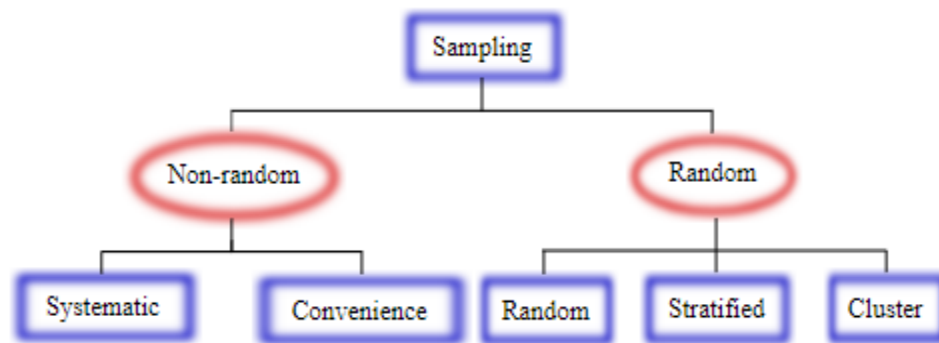
- **Probability Sampling-** Probability sampling means, every member of the sample has an equivalent chance of getting selected. It is mainly used in research. Probability sampling is further subdivided into four parts:
  - **Simple random Sampling**
  - **Cluster Sampling**

- **Systematic Sampling**
- **Stratified Random Sampling**
- ***Non-probability Sampling***- In non-probability sampling, every member of the population does not have an equal chance of selection. It does not believe in randomization. The results of such sampling might be biased and are generally used to create a hypothesis and when some preliminary data is required. Non-probability sampling is also further sub-divided into four parts:
  - **Convenience Sampling**
  - **Judgemental/ Purpose Sampling**
  - **Snowball Sampling**
  - **Quota Sampling**

Here, the simple random sampling method is used which is the best and the basic type of sampling method which comes under probability sampling.

#### 3.1.4 Sample size

The sample size in research work refers to the number of participants used for the research work as a subject. It is one of the very important parts of any research and hence sample size should be chosen carefully (Sui, Zhang, Huan & Hong, 2019, July). Neither a big nor a small sample size would give the required results for the research. In this research, a total of 5 people are chosen as respondents for the research work. They were divided into age groups, their profession, the time they spend on the internet, etc. and it was studied how SEP and SERP are affected by their daily search on the internet. It would rather be called a case-study as the number of respondents taken here is five. It was found from the research that, both SEO and SERP are interlinked and inter-dependent on each other. Much advanced search result algorithms would help in more refine search results in future with advanced technological functions in the background.



**Figure 6. Research sampling**

(Source: Self-developed)

### 3.1.5 Data collection methods

The data collection method is said to be the most widely used research technology for market research work (Kennedy, 2017). Here, research has been done on 5 people to understand the correlation between SEO and SERP. The data collection method is the process of collecting and analysing samples. There are several data collecting methods, which include:

- Online surveys
- Interviews in-person
- Phone surveys
- Email surveys

Out of all the survey methods interviews, in-person interviews are considered to be the best as the interviewees are seen in front and their body language and confidence are also seen, although this process is time-consuming. The three other methods including online surveys, phone surveys, and email surveys are costly.





**Figure 7. Types of qualitative data collection**

(Source: Self-developed)

### 3.1.6 Data analysis methods

Data analysis is a process of applying logical and statistical methods to describe and evaluate data in research work. It is a qualitative research analysis. Data analysis methods can be broadly divided into few parts:

- **Qualitative Data Analysis:** This type of data analysis is done by questionnaires like ‘what’, ‘why’, ‘how’ and ‘when’. No graphs or numeric calculations are done (Alase, 2017).
- **Quantitative Data Analysis:** This type of data analysis is done and represented by graphs and numerical data and is said to be the statistical representation of data in research.
- **Statistical Data Analysis:** This type of data analysis includes modeling, presentation and interpretation of the data.
- **Predictive Data Analysis:** This category of data analysis helps in predicting and assuming the results of data in the future (Mills & Gay, 2019).
- **Diagnostic Data Analysis:** This type of data analysis diagnoses and finds out why it happened.
- **Text Data Analysis:** This type of data analysis changes raw data into business information and is also known as a data mining technique. It helps in examining and determining the data.

These data analysis methods help in making the research work easier and help in better and unbiased research results.

### 3.1.7 Ethical considerations

To conduct any research work, few ethics or ethical considerations should be maintained. Violating ethics may result in incorrect research results. During research work, the researchers face many challenges. The ethical rules are:

- The researchers should not be harmed and should be respected and should be well treated
- The research work conducted should be kept confidential
- There should not be any misleading data
- The name of the researcher and the organization should also be kept confidential

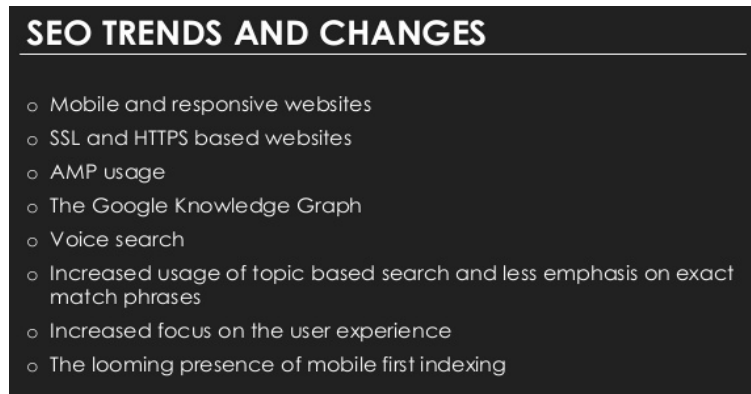
The above issues are generally observed in research work and are identified as ethical issues in the field of research activity (Schoonenboom & Johnson, 2017).

## 3.2 Modern SEO trends in marketing

**Original content vs plagiarised content-** In the past years it was easy for websites to earn good recognition just by copying the content from other websites but now the advanced algorithms can easily identify the phrases as well as the pictures copied from other websites. Hence, nowadays, it takes real effort to make a site stand out from others.

**Shorter URLs-** Nowadays, Google focuses more on the first five letters of an URL and less on the rest ones. Hence, the rankings are done on the basis of the first five letters thus the shorter links are likely to get more attention than the others.

**Relevance of content to tags:** It does not depend on the number of keywords used in creating the title of tags; it is the relevance of the content to the title tags that carries a URL to the top of the SERP.



**Figure 8. Modern SEO trends**

(Source: Self-developed)

**Topic depth:** According to the new algorithms, the average length of an article or a blog must be 1800 to 2000 words in order to rank higher because search engines now focus on how in-depth the topics are written in. However, a picture relevant to the topic might also help in ranking higher than sites containing a thousand irrelevant pictures.

**Making a site user friendly:** Google or any other search engine would not appreciate their users being guided to a dull website. Therefore, SEOs now are about making a site more users friendly and most appropriate

**Having a high ROI:** If compared to offline advertisement techniques SEOs have the higher rate of ROI. The reason behind it is that SEOs help to connect with the right people at the right time. The best thing about SEO is people are not forced to read or watch the advertisements unless they want it themselves. So, they don't mind SEOs, and watching a website in a higher position in SERP will convince them that it is the right business to work with.

**Determining and fixing what's not ranking:** A site is likely to have many pages but all of them wouldn't rank much, thus the key is to revisit the pages and fix them in a way to rank higher on Google's first page of SERP.

**Going local and mobile:** In the past few years with the dramatic rise in the mobile industry the SEO practices have also changed and arisen. The key now is to go hand in hand as people are now using mobiles to search for local businesses; the local sources must be fully covered and made easily accessible for mobiles.

**Reviewing internal links:** It is likely to get a boost in ranking after entering certain internal links in the pages of a site because google pays higher attention to pages containing valid side links.

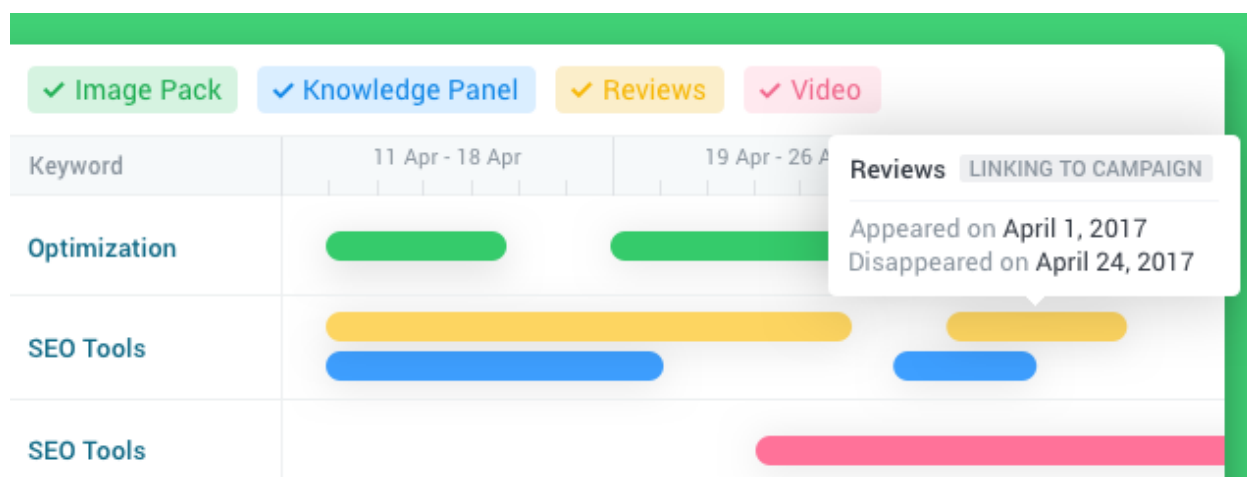
**Tweeting daily:** It is known that often searches, google shows information which are relevant to the topics. Hence, a site owner might engage more traffic with the help of twitter by performing activities like-

-tweeting everyday

-using popular hashtags

-interacting with other twitter accounts etc.

### 3.3 SEO and SERP: A contrastive study



**Figure: SEO enabling SERP**

(Source: Nattestad, M., & Schatz, M. C. (2016))

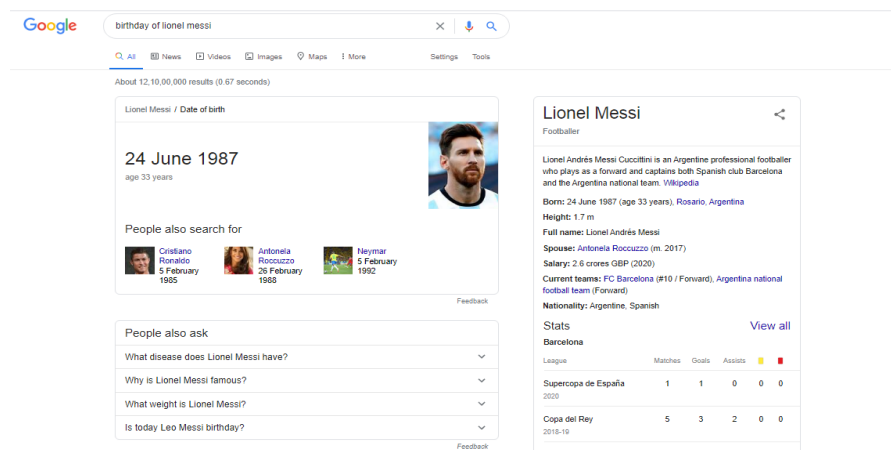
In any search engines like Google, Facebook or LinkedIn, most people click on the organic search results on the first page of the SERP and rarely visit the next page. This is the reason why every website wants to rank first in the search results. Ranking in any other pages except the first means they are almost invisible to the public and users.

Search results can be of few types:

→ **Organic Search**- Organic search refers to the unpaid rankings in the search results. Organic search uses SEO to optimize their site’s visibility in search results. It also boosts credibility.

→ **Paid Search**- Paid search helps users to pay a certain amount to occupy a prominent position in the search results.

→ **No-click Searches**- One important factor to evaluate the SERPs is “**No-click Searches**”. This occurs mainly due to SERP features. For example, if a user searches the birthday of Lionel Messi, we get our answer in the first page itself, and hence no one will click on any of the blue links given below.



**Figure 9. No-click search**

(Source: Google.com)

A thorough study and research has been done recently to evaluate the search result percentage based on organic, paid and zero-click searches which shows that over 50% of the searches are zero-click whereas organic and paid searches comprise 45.25% and 4.42% respectively. Refer the charts below for reference:

SERP is unique based on the keywords used by the user to search their query. So whenever the user searches anything in Google using the same keyword, they will find a slight difference between two SERPs. Google also checks the user’s location, previous search results, IP address etc. before producing the search results. SERP is important because based on that, the company’s website ranking depends, which will result in more clicks on their website.

### 3.4 SEO and SERP: Combination for enhancing profitability

Nowadays online and offline modes of marketing are becoming interdependent on each other and can impact the brand and overall marketing results. The most prominent strategy of digital marketing is SEO. SEO is here to stay and is going to develop and become advanced furthermore in future. The case studies of various companies show how SEO has changed their business models.



Figure 10. SEO leading to SEM

(Source: Self-developed)

→ **It is here for the long run:** Search engines are here to stay for a long time in future, as it has made such high demands and success, and they will only improve themselves more.

→ **keeping up with the time:** Google is constantly changing and developing its algorithm to improve its search results so that it can provide its users with more accurate search results.

→ **Mobile bandwidth and local search optimization are increasing:** With the massive use of mobile devices over desktops or laptops, the traffic coming from mobile devices has become more. With this, local search optimization will provide more opportunities for business owners.

→ **Competitors are doing SEO:** If a customer cannot find a business in the search engine results, they will immediately move to its competitors, so a business might lose a customer in this way.

→ **Everything depends upon the ranking:** People always look into search engine results in the first page. If it is not there, it is almost equivalent to not existing.

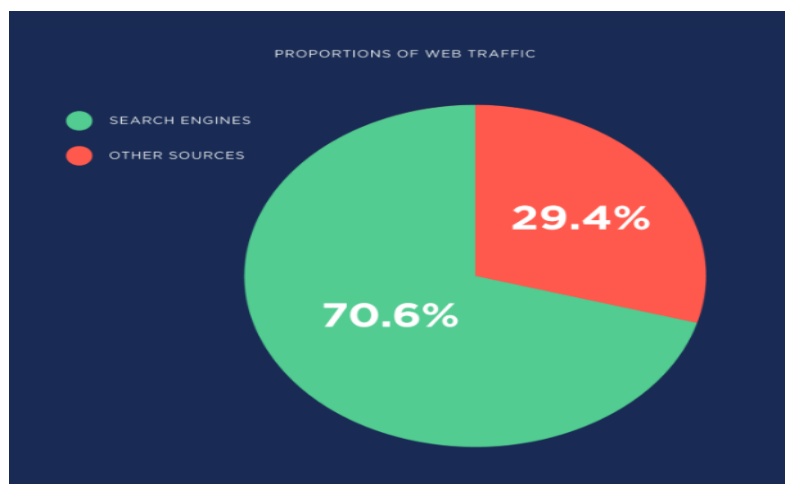
→ **Enhancing credibility and relevance:** To be in the first page of search results, gives an impression to the consumers that it is the most relevant website against the search results.

Shortly, people have become so dependent on Google and the internet, that if any business website is not there on the search results, and that too on the first page, no one will find interest in it and it will make no sense to the business market.

### 3.5 Correlation between SEO and SERP as utilized by tech-giants

SEO is a way search engine like Google, Bing, Yahoo markets a business and brings it in front of billions of people who are searching online every day. SEO helps to give advertisements for free. Using SEO, a business can invest and grow its profit, and the internet is one of the biggest mediums now. Social media, email marketing, video/YouTube marketing, Facebook ads, LinkedIn Ads are few of the internet mediums.

From the pie chart given below, we can see the proportion of web traffic created through search engines compared to other sources.



**Figure 11. Proportion of web traffic**

(Source: Sim, Saunders, Waterfield & Kingstone, 2018)

What we see is, about 70.6% of the web traffic is generated by the search engines, whereas other sources like Facebook, Twitter, LinkedIn etc. produces only 29.4%. As we know that the SEO effect is huge and creates a lot of impact on business. If a web page is able to hold a proper rank and a proper position on the search engine, the result could be tremendous. It would help in generating thousands of users to visit that particular website every day. If the website is good in converting traffic into leads, it could have more number of leads every month. Thus, SEO helps in increasing more organic traffic, increasing keyword ranking and rank more for keywords. Regardless of the situation, SEO is important for any kind of business. Whether it is a new business or old, struggling or successful, large or small, SEO is very important for online success.

**SERP Analysis:** SERP analysis is a method by which the top ranking websites can be evaluated and checked whether the keywords a business wants to rank for is relevant or not and check the possibility to outrank the competitors.

**SERP Tool Analysis:** The SERP analysis tool helps in comparing the website with competitors, analyse Google's SERP features and see the search results.

There are several ways to get on top of the Google SERP. Few of them are-

- **Content creation-** When it comes to search engine ranking, relevant content is necessary. Keywords would not work if they don't match with the content.
- **Effective backlinks-** To make a website more successful, besides keywords, inclusion of building links is necessary.
- **Good customer experience-** If the website has a user-friendly interface, customers will come back again and again which will result in more traffic in the website.
- **Optimize keywords-** Trying to find what people are searching most and then optimize accordingly.
- **Optimize website speed-** The time taken by a web page to load can make a big difference, as more users will stay in the website for fast access.

Search engine optimization may be defined as the process of optimizing the business's website such that it can be easily found and indexed by the draggers of search engines which are generally bots that search thoroughly through the internet ranking and finding the content.



Without an appropriate SEO strategy, the website will possibly struggle to be visible in online search results. In the present days no longer people hop into the market to buy or sell goods rather they make full use of their internet facilities and can purchase or sell things at a click of their fingers. Thus online businesses are getting popular day by day and to make the proper use of their website entrepreneurs must follow some basic SEO tips to make the most out of their business.

**Some of the SEO tips for business:**

- Focus on the Technical SEO: It is the process by which the structure of the site pages is optimized such that the draggers could easily index and rank the site. Now even if the content of the website is amazing still the problem with technical SEO is that it will hamper the site's ability to rank high in the SERP's. So when a new content is being created in order to draw the attention of customers check the content quality from a technical point of view. Also make sure about the encryption and security of the website along with that keep a vigil at the protocols, structure of data and also optimize the page speed.
- Find the keywords that customers are searching for: The most appropriate way to know what to be written is to have an idea about what the customer is actually looking for. In order to start with it one can take suggestions from the autocomplete feature of Google. Currently there are ample tools that make this keyword search easier and faster along with the quick breakdown of keywords related to the particular site.
- Content marketing: To make the most out of the website one should rely on content marketing. Using templates and videos can make the website more attractive to the customers and also enhances the rank of the site in the SERP's.
- Optimization of on page SEO: On page SEO includes all the words that appear on the page. Here the main objective is not only creating an interesting content but also to optimize the headings and page titles, proper usage of header tags and framing the posts in the best possible way such that it draws the attention of the customers and is being placed at top rank in the SERP's.

- To build the authority with links: If some other sites are being linked to the particular site then it enhances the rank of the site in the search engine. It has been observed that the number of sites that are linked to a page corresponds to a high ranking in the SERP's, which is considered as the best SEO strategy.

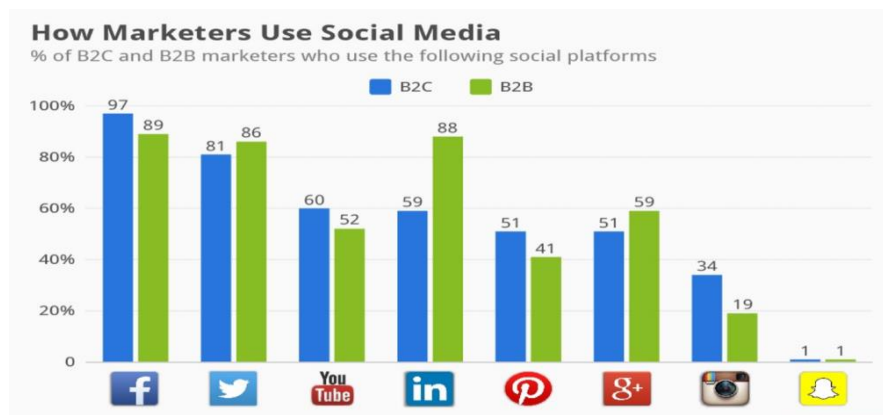
This happens because Google prefers the quality and quantity with the links which indicates that the site is worthy to be read.

### 3.6 Online Advertisement Campaigns

There have been many times when we reacted to a Facebook video or clicked on a Google search result not even realising that it is an advertisement. Advertisements can be contextual or targeted and are helpful in ways. In short, advertisements can be referred to as the content of modern day technology. Advertisement campaign is an important type of marketing strategy for any kinds of business which helps in increasing the profit and brand awareness. Online ad campaigns are very helpful as a huge number of the world population are always active on social media websites, the internet and are dependent on digitization. Interaction with people becomes much easier and much better and it is also cost saving. Online ad campaign can be of various types, mentioned below:

- **Social Media Advertising:**

The below graph represents how marketers use social media platforms as a medium of online advertisement campaigns.



**Figure 12. How marketers use social media**

(Source: Mills & Gay, 2019)

From the graph we can see that Facebook and Twitter are the most popular social media platforms for B2C sales and LinkedIn as a popular avenue for B2B sales. Every now and then people are using social media platforms like Facebook, Twitter, Instagram or LinkedIn whether to chat, or to watch some videos, or search jobs or for any and every other reasons. As a result of such a huge craze of social media platforms, advertising through social media across the world is projected to exceed \$8.5 billion this year. There are a few advantages of advertising through social media:

- Reach specific audience
- Format advertisements in a way so that aligns with specific business and its goals
- Invest in the specific advertising efforts, which helps in the sales of the business

There are some popular online advertisement campaigns. They are-

- Google AdWords campaign
- Facebook advertising campaigns
- Other social advertising campaigns like Twitter ad campaign, Instagram ad campaign, LinkedIn ad campaigns etc.

Advertisement campaigns should always be organized according to business goals, or else ad's will get mixed up. One of the most important aspects of online ad campaigns is defining a particular audience group who will see the ad. Google also helps in keyword search whereas Facebook does not. Advertisements can provide good returns and more money can be made. There are few metrics which helps in monitoring the ad campaigns. They are namely:

- Click-through rate
- Cost per click
- Cost per action
- Conversion rate
- Impression share

In the end what we need to remember is, whatever message needs to be conveyed to customers, it should speak to the target audience.

### 3.7 Research and Advancements in SEO and SERP

SEO content makes advancements and updates very frequently because new standards of content and SEO friendly material are produced. SERPs depend on SEO content, i.e. the pages that are shown as a result of a search on the search engine, will depend on the content of the particular pages that are suggested and whether the content is SEO friendly. If the SERP criteria changes with time, it is bound to reflect changes in SEO and SEO content. The new advancements in the SEO that has been accumulated in 2020 are as follows.

***BERT and user-oriented SEO:*** Bidirectional Encoder Representations from Transformers is a unique Natural Language Processing (NLP) technique developed by Google. It is leveraged to understand better user searches and experiences. To keep this technique in mind while developing content one must know the importance of user friendly and user-oriented content. One needs to keep in mind how a search is indexed and served in various search settings. With more than ever options for search engines, it will be a fundamental task of SEOs to keep in mind the clean delivery of content with perfect architectural skills of building on it. Only creating content with keyword optimization will not work anymore. Advancements point out that there should be a direct knowledge of user intent before creating content. Only using keywords does not optimize content for search engines. That only creates a few loose strings and not a holistic SEO content. Suggested queries that might crop up from reading the content must be included as hyperlinks in the content itself that will optimize the content as well as the pages of search results. Senior Program Manager of Bing also reiterates that keyword search will soon become obsolete and searching by intent of the users will become the primary search methodology in the near future. Content should be created only after having known the target audience group well. That can be the only way in optimizing SEO and SERP and a great marketing strategy.

**Optimized content with high quality:** Content affects the SEO directly and most intensely. Therefore, how one builds on the content becomes a crucial factor. Starting from embedding the correct links, structures of the site to linking strategies all these factors determine the content and SEO friendliness. For better results, one must invest in writing relevant and valuable content. Value will be judged in the sense of quality. Providing information or knowledge from sources that are not common and embedding correct links might help with building valuable or quality

content. The aim should be to have the best content on the web for the topic one is writing on. This creates an allowance for being competent in delivering long tail search results. Long tail searches are common among 70% users. The Global SEO Strategist of IBM has to say that it is time to stop running behind individual keywords and targeting page views. It is important to switch to a more topic focused qualitatively valuable content.



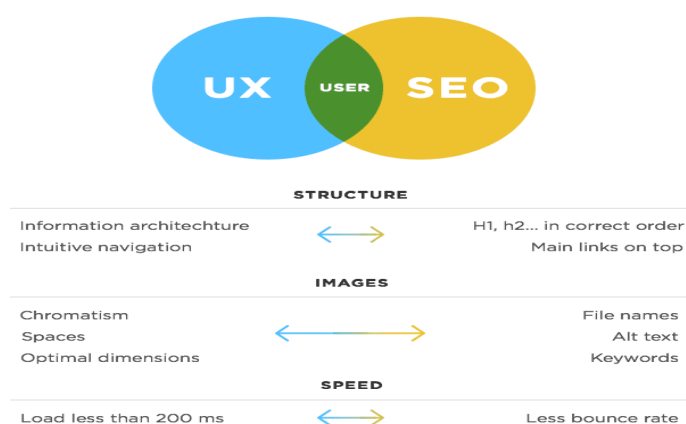
**Figure 13. Types of content optimized SEO**

(Source: Self-developed)

**The E-A-T theory:** In 2020, Google as a search engine will look into the overall reputation of the company who uploads the content and also E-A-T (Expertise, Authoritativeness and Trustworthiness) of the given firm or individuals who upload the content. Individuals or firms who are struggling with issues of reputation, quality of customer service or non-reliability will face challenges in uploading developed content on search engines like Google no matter how well-crafted the content is. There will also be focus on fighting fake news and producing original content. SEOs will yield better results in these ways. There will be fact checking schemes on the search engines and also credentials of authors have to be submitted and will be reviewed before uploading any content. Authentic branding will also be checked by search engines.

**Technical SEO and the UX factor:** The greatest focus of professional SEOs should now be user experience (UX). The overall experience from the initial interaction in the Search Engine Result Pages, to experience on the page of landing and even the experience after the user leaves the site contributes to the overall experience. Therefore, it must be kept in mind a holistic experience is to

be offered to the user. If an individual faces a great experience after looking up a search engine for a query, it is always well appreciated and it is also expected that the user will recommend that page to fellow users facing a similar query or need. One needs to create value for the user only then will the user come back for a particular page. While talking about technical SEO and UX factor hand in hand, one must definitely note site and page speed as elementary concerns. For this many SEO experts might reconnect with their developers and it might be seen that the entire page template might have to be changed for obtaining speedy page loading. There might also be complete redesigning of the page.



**Figure 14. SEO and UX**

(Source: Self-developed)

**Mobile SEO:** It has been observed that sites or pages created for the desktop often crash on mobile phones. Most of the user's access sites and pages these days, instantly and on the go from their mobile phones. Therefore, it is being advised that the sites be primarily developed considering mobile phones and then made compatible with desktops or laptops. Online reports must prioritize and reflect mobile SEO. But mobile SEO optimization does not stop here. It is essential to look into the commonly used SERPs of the mobile.

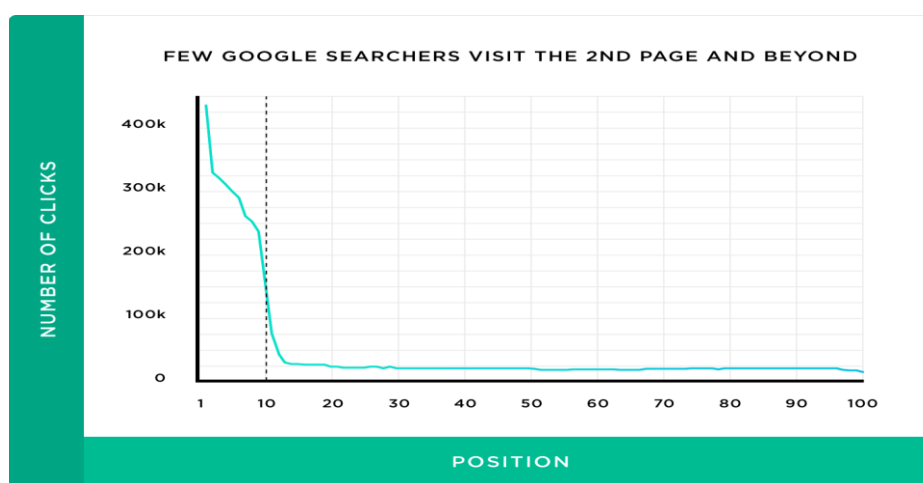
**Structuring Data:** Quality of content is gradually becoming more important for SEOs but search engine algorithms still don't understand context very well therefore it becomes essential to structure the content. Structuring the data not only helps in understanding what is on the page but

also how each data is linked to the other on the page. This helps the customers or users of a firm or page to understand the content better even before clicking on it.

### 3.8 Business approach of Google in deriving values from the correlation

SERPs are the pages that Google (also other search engines) show as a result of a search query input by a user. SERPs are heavily dependent on SEOs. SERPs on Google are of two types - paid and organic.

*How are SEO and SERP correlated and dependent on each other?* Users generally click on the results appearing on the first page or the first SERP page that appears post putting in the search query. It is seen that page 2 onwards is rarely visited by any user. This is why every page wants to rank in the first page of Google or any search engine for that matter. Because landing up on page 2 or beyond practically makes one invisible. Landing on the first page also does not ensure a lot of user traffic on the page because most of the organic clicks go to the first three or four positions in the page. Research confirms that 75.1% of the clicks go to the first three positions of the SERP.



**Figure 15. Google SERP user clicks**

(Source: Poliakov, 2020)

Paid results are the pages or firms that pay google to be on top of the SERP. These paid results push the organic SERPs downwards in the page. For example, if Google shows three paid ads before the organic searches, the one that was supposed to top the list is now automatically fourth

on the SERP. Research points out that 39% of the clicks go to paid results due to appearing on top. Google also shows a few SERP features that answer the search query in the search results itself and does not lead to a separate landing page. This is because Google itself directly answers the search query.

SERPs might look different at each search query but they are made up of three basic building blocks as already discussed above, i.e, Paid ads, organic results and SERP features. Paid ads have bidders on keywords and pay Google on per click basis. Google also counts factors like relevance of the ad and CTR into account for placing them in the SERP. The bottom-line is that if one wants to appear on paid ads, one will have to dig into his back account a little. For appearing in the organic search results, one has to feature in the indexing and sorting of the Google search engine. It is specifically not known on what basis google performs this indexing and sorting of content to feature it on SERP. But one of the ranking factors determining the appearance of the page on the SERP is definitely high quality of content that is relevant to the search query. The number of hyperlinks or embedded links on the page also becomes a factor for organic appearance. It is to be investigated that for appearing in organic search results, one need to be creating the most relevant and best quality of content that can optimize the search.

### **3.9 LinkedIn using correlation for gaining acknowledgement.**

LinkedIn is mostly overlooked as an essential and vital asset for empowering and improving SEO. LinkedIn has a self-generated SEO capability, and this platform can be used for the improvement of a brand website. By implementing the right strategies one can organically rank his/her LinkedIn profile and publish articles on this site. B2B opportunities are enormous because LinkedIn is a social media platform for business professionals. Therefore, the marketing agencies which specialize in SEO try to incorporate this site into their strategies for organic search queries. To develop and encourage business growth, SEO within LinkedIn can be performed by implementing strategies. In the traditional sense, LinkedIn can also be leveraged. LinkedIn should ideally be viewed just like a search engine like Google because there are plenty of business networks, engagements and fresh content that is added everyday by users therefore creating endless opportunities. According to a few researches, LinkedIn acts as the most active platform that B2B companies look into to find new clients. Therefore, optimizing one's LinkedIn profile might add



to the correlation of the SERP and SEO leading to the growth of his or her business. LinkedIn has an enormous authority in high domain because it primarily has a huge active user engagement. Google search terms revolving around job roles generally yield the results from LinkedIn. Blogs and articles by LinkedIn users also organically feature in Google searches because they have very specific and narrowed down keywords about specific searches. Descriptive words used on LinkedIn that are intriguing might also attract attention and prove as SEO friendly. One must think in terms of how a customer or employer might look up for a professional like the user. The profile should be based on that idea and keywords selected accordingly. This will automatically yield results as those keywords will function as optimization of the LinkedIn that is working as a search engine in this context. Using the right keywords in the user profile as well as content is important but stuffing keywords is not the only criteria for optimization. Creating a general frame of keywords that is rich in the intent of the buyer or user looking up for an individual or content is important. Commenting or liking a piece of content that is existing on LinkedIn sends out strong social media signals which make a content more easily searchable and findable on the web. Joining social groups where the user or firm's customer spends more time will also add to the reach and sociability of the user. Also, to increase organic reach, it is mandatory to comment and get talking on other relevant posts so that when search queries regarding such content arises, the user's profile is hit by search engines. In this way LinkedIn can be acknowledged as one of the search engines like Google which works on the principle of basic correlation of SERP and SEO.

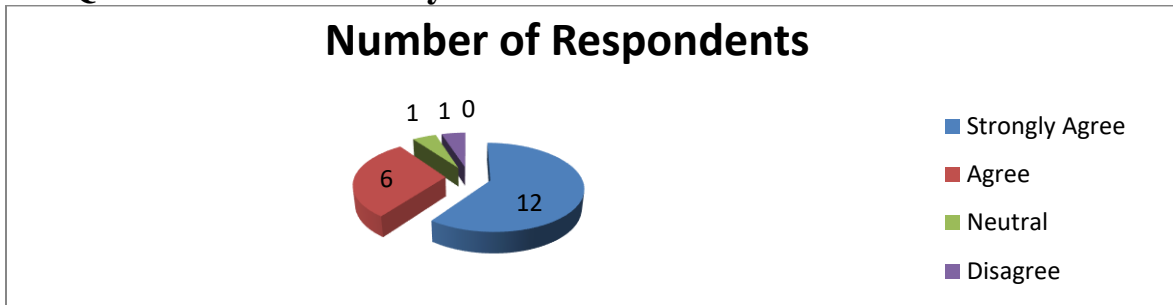
### **3.10 Integration of a virtual society by Facebook**

Out of 80 million monthly active business pages on Facebook, it is very challenging to add new followers and gain new likes and shares to a page. The primary challenge of Facebook for a firm seeking to market itself is to steer amongst millions of personal content that dominates the platform and also standing out as having unique content on one's page. Therefore to increase visibility and reach of one's page, the page must be visible not only on Facebook search but also on other search engines like google. This creates a virtual society on Facebook where there are both personal and business profiles also both informal and formal content co-existing and also competing for search optimization.

Using keywords only in the content does not always optimize content on business pages on Facebook. It is also important to use keywords in the name of the content. However, using too many keywords in the name might make it sound like a spam page so there has to be a careful mix of keywords and art. Since Google puts emphasis on the first word of the page title, it is important that the first word is well chosen and correctly chosen. The name also should not be too generic in nature because it might get lost in the huge avalanche of all business pages of the same genre. Use of special characters to make a business page stand out also is not a very good idea as search engines don't promote pages with such names, in general. The 'about', 'description', headlines and photo captions on the page should be sprinkled with keywords depending on the type of customer or user one wants to attract. Using relevant hashtags might also help in optimizing the page and creating a word on the virtual society of Facebook. There are websites that provide the most effective keywords for business or personalized pages and one must visit those sites for suggestions. It is also useful to use long tail keywords for a business page on Facebook so that it is optimized and put up as a searchable content. If a website with suitable authority and trustworthiness has posted the link of a Facebook business page, it creates a backlink for the page and increases the optimization of SEO. This also helps in appearing earlier in searches. Similarly, backlinks from unrecognized and random pages can affect the reputation of a business page on Facebook. It can be useful if any influencer makes guest posts on the page and shares it in his blog. This will also increase the credibility and trustworthiness of the business page. Linking content to influencer posts will also increase optimization of the page. Customizing the URL of one's business page to match the page name is also an effective method to optimize searches about the page. Utilizing the 'about' portion of the page correctly and valuably is also an important aspect of increasing SEO on social media.

## 4 Analysis

### 4.1 Quantitative data analysis



**Graph 1. Relationship of SEO and contemporary business**

(Source: Self-Developed)

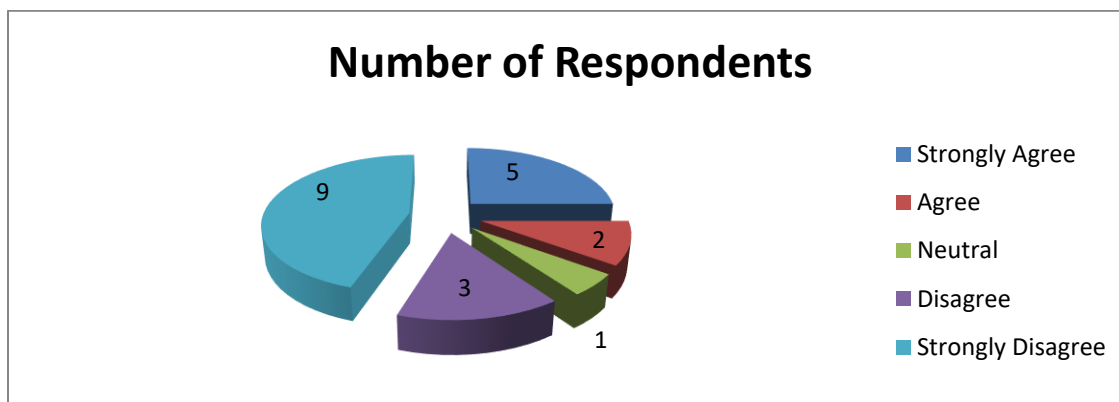
**Analysis:** About 12 respondents out of 20 have strongly agreed to the statement that in contemporary business SEO is an essential part, which is the highest percentage of the responses acquired for the mentioned statement with the percentage of 60. On the other side, none of the respondents have strongly disagreed with the statement and only 5 percent of respondents have disagreed with the question which consists of the responses of 1 respondent out of 20. Here again, 1 respondent has remained neutral to the mentioned statement which comes to 5 percent of the total respondents. 6 respondents out of 20 have agreed to the question while answering it, which comes to 30 percent of the total respondents.

1. SEO is a complicated architecture and needs proper attention from organisation

Responses	Number of Respondents	Total Respondents	Percentage
Strongly Agree	5	20	25
Agree	2	20	10
Neutral	1	20	5
Disagree	3	20	15
Strongly Disagree	9	20	45

**Table 1. SEO is a complicated architecture**

(Source: Self-Developed)



**Graph 2. SEO is a complicated architecture**

(Source: Self-Developed)

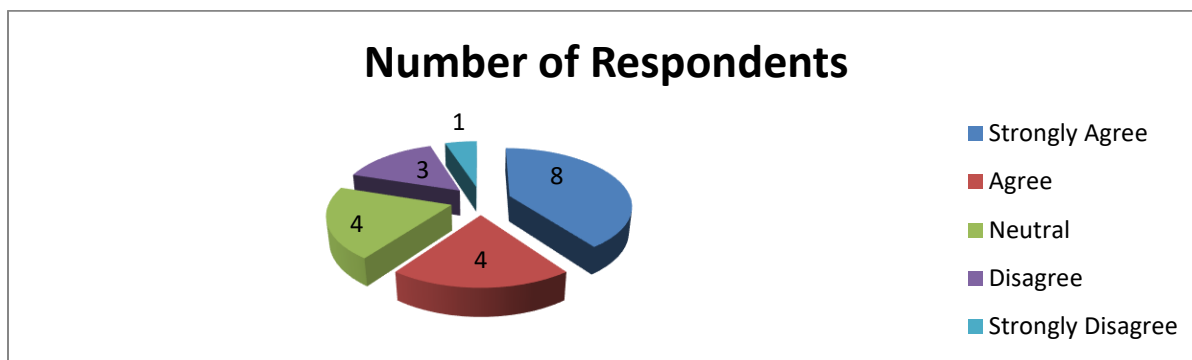
**Analysis:** “SEO is a complicated architecture and needs proper attention from organizations”. This statement is strongly disagreed by 45 percent of the total respondents which consists of 9 respondents out of 20, contrastively 5 respondents out of 20 have strongly agreed to the question which comes to 25 percent of all respondents. It clearly defines that SEO is not complicated or difficult at all. About 15 percent replying to the assertion have disagreed and 5 percent have remained neutral while answering the question. Although the other 2 respondents out of 20 have agreed to this assertion, which has a percentage of 10 in all respondents.

## 2. SEO and SERP are interdependent variables

<b>Responses</b>	<b>Number of Respondents</b>	<b>Total Respondents</b>	<b>Percentage</b>
Strongly Agree	8	20	40
Agree	4	20	20
Neutral	4	20	20
Disagree	3	20	15
Strongly Disagree	1	20	5

**Table 2. SEO and SERP being interdependent variables**

(Source: Self-Developed)



**Graph 3. SEO and SERP being interdependent variables**

(Source: Self-Developed)

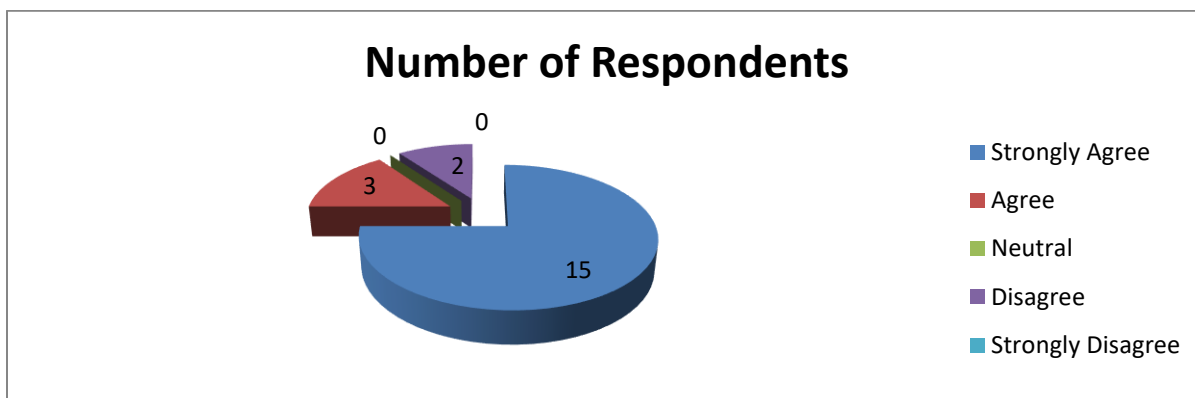
**Analysis:** 40 percent of the responders have strongly agreed that SEO (Search engine optimization) and SERP (search engine result page) are interdependent variables, which involve 8 respondents out of 20 and only 1 responder out of 20 has strongly disagreed with the mentioned statement. 20 percent of the respondents have agreed that SEO and SERP are interdependent variables that contain 4 responders out of 20, on the other hand, 15 percent of respondents have disagreed with the same statement which contains 3 responders out of 20. Although about 20 percent of the respondents have remained neutral while replying to the statement. Hence, it clearly proves that most of the managers or respondents strongly agreed that SEO and SERP are dependent on each other.

### 3. Online presence is an indispensable element of contemporary trade

Responses	Number of Respondents	Total Respondents	Percentage
Strongly Agree	15	20	75
Agree	3	20	15
Neutral	0	20	0
Disagree	2	20	10
Strongly Disagree	0	20	0

**Table 3. Online presence is an indispensable element**

(Source: Self-Developed)



**Graph 4. Online presence is an indispensable element**

(Source: Self-Developed)

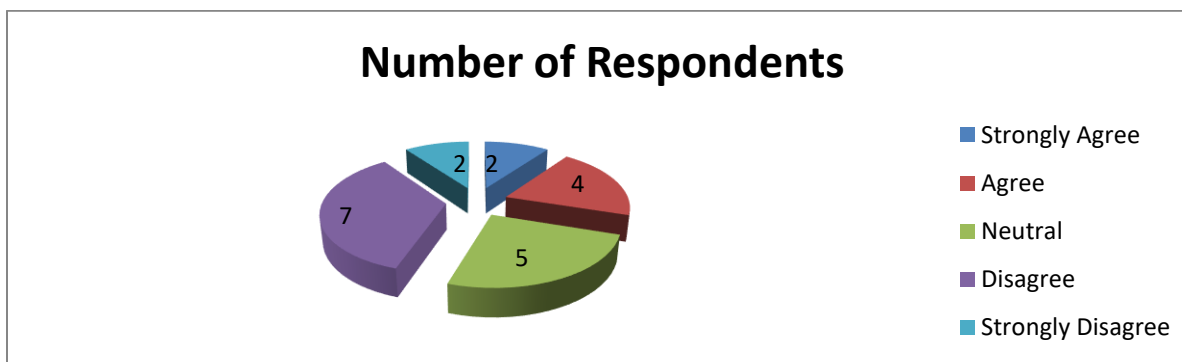
**Analysis:** About 15 respondents out of 20 have strongly agreed with the statement which contains 75 percent which is the highest percentage of response obtained for the statement and none of the respondents has strongly disagreed with the statement. Although 2 respondents out of 20 have disagreed with the statement which has a percentage of 10 in all respondents. 15 percent of responders have agreed that online access has an effective role in contemporary business, which consists of 3 responders out of 20. Hence, it proves that online presence is very important as well as an effective feature of contemporary business or trade according to most of the managers as they responded with the statement and surprisingly no one has responded with the statement in a neutral way.

#### 4. Organic and Inorganic search results are variables for trade efficacy

Responses	Number of Respondents	Total Respondents	Percentage
Strongly Agree	2	20	10
Agree	4	20	20
Neutral	5	20	25
Disagree	7	20	35
Strongly Disagree	2	20	10

**Table 4. Organic and Inorganic search results in terms of trade efficacy**

(Source: Self-Developed)



**Graph 5. Organic and Inorganic search results in terms of trade efficacy**

(Source: Self-Developed)

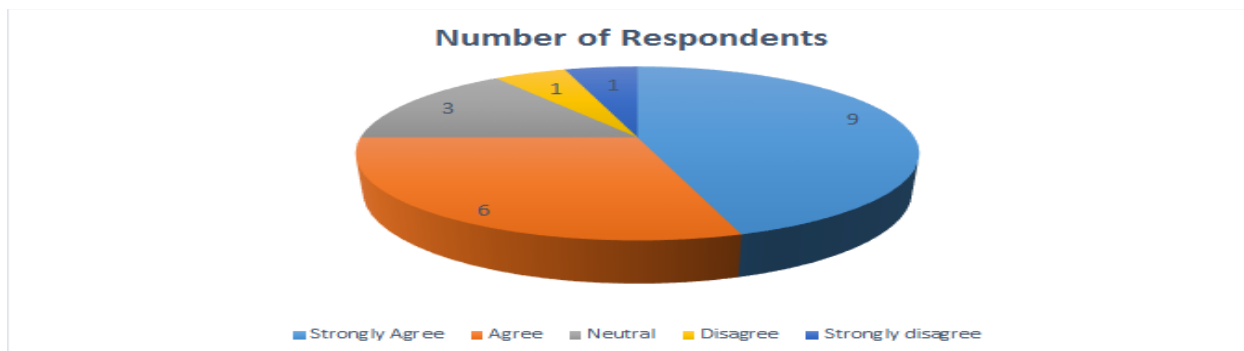
**Analysis:** This statement has most disagreed with the responders. About 35 percent of the respondents have disagreed with the statement which consists of 7 responders out of 20. 10 percent of respondents have strongly agreed to the statement, parallelly 2 respondents out of 20 have strongly disagreed with the same assertion, which has a percentage of 10 of total respondents. About 5 responders out of 20 have remained neutral with the statement while answering the statement which carried a percentage of 25. The remaining 20 percent of respondents have agreed to the statement. Hence it clearly shows that most of the managers do not agree that organic and inorganic search results are variable for trade value.

#### 5. SEO and SERP can together impact overall marketing.

Responses	Number of Respondents	Total Respondents	Percentage
Strongly Agree	9	20	45
Agree	6	20	30
Neutral	3	20	15
Disagree	1	20	5
Strongly disagree	1	20	5

**Table 5. SEO and SERP affect marketing**

(Source: Self-developed)



**Table 6. SEO and SERP affect marketing**

**(Source: Self-developed)**

*Analysis:* SEO and SERP can together impact the overall marketing industry. SEO is a very important part of marketing, especially digital marketing strategy. SEO helps users in finding out a particular website of business among a thousand other companies. To get proper webpage visits and clicks, the business must ensure that their webpage is situated on the front page of the search results. To achieve the benchmark, the website must hold a good SERP position and must perform well in social media marketing. Website ranking is very important for digital marketing. From the above figure, it is seen that, out of a total of 20 respondents, 9 people strongly agree, 6 people agree, 3 people gave a neutral answer, 1 person agreed and 1 disagreed Thus we can shortly say that SEO and SERP can impact overall marketing.

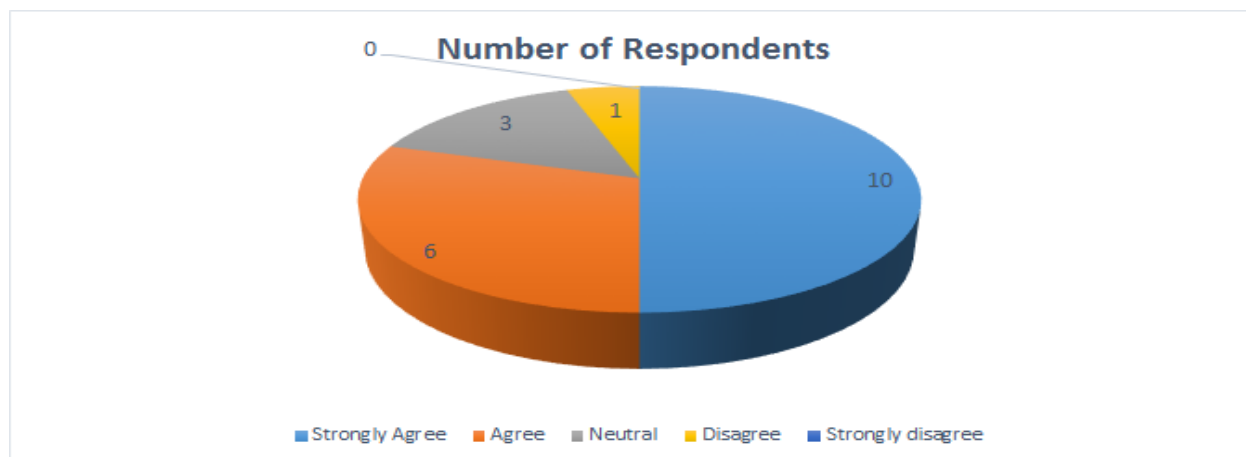
#### **6. SEO and SERP are used by your organization in regular operations.**

<b>0</b>	<b>Number of Respondents</b>	<b>Total Respondents</b>	<b>Percentage</b>
Strongly Agree	10	20	50
Agree	6	20	30
Neutral	3	20	15
Disagree	1	20	5
Strongly disagree	0	20	0

**Table 7. SEO and SERP being used by an organization**

**(Source: Self-developed)**





**Graph 6. SEO and SERP being used for an organization**

**(Source: Self-developed)**

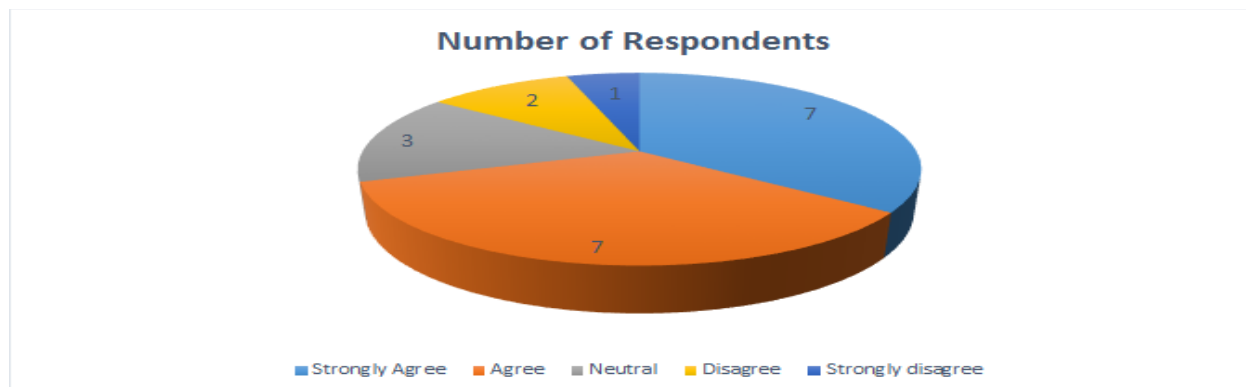
**Analysis:** The above figure depicts what is the percentage that SEO and SERP are used by the organization in regular operations. It is observed that out of 20 respondents 10 people strongly agree, 6 people agree, 3 people gave a neutral answer and only 1 person disagreed with the statement. SEO and SERP are both interrelated and interdependent on each other and go hand-in-hand. It is a primary component of digital marketing. Without SEO and SERP the public would not come to know about the business. If the websites rank the first position in the search results, there are more chances that those webpages will have better visibility and that would help in better business operations. SEO and SERPs would help in better search results thus helping the employees with all sorts of business operations.

#### **7. SERP tool analysis helps in comparing websites with its competitors**

<b>Responses</b>	<b>Number of Respondents</b>	<b>Total Respondents</b>	<b>Percentage</b>
Strongly Agree	7	20	35
Agree	7	20	35
Neutral	3	20	15
Disagree	2	20	10
Strongly disagree	1	20	5

**Table 8. SERP tool analysis for a comparison of websites to its competitors**

**(Source: Self-developed)**



**Graph 7. SERP tool analysis for a comparison of websites to its competitors**

**(Source: Self-developed)**

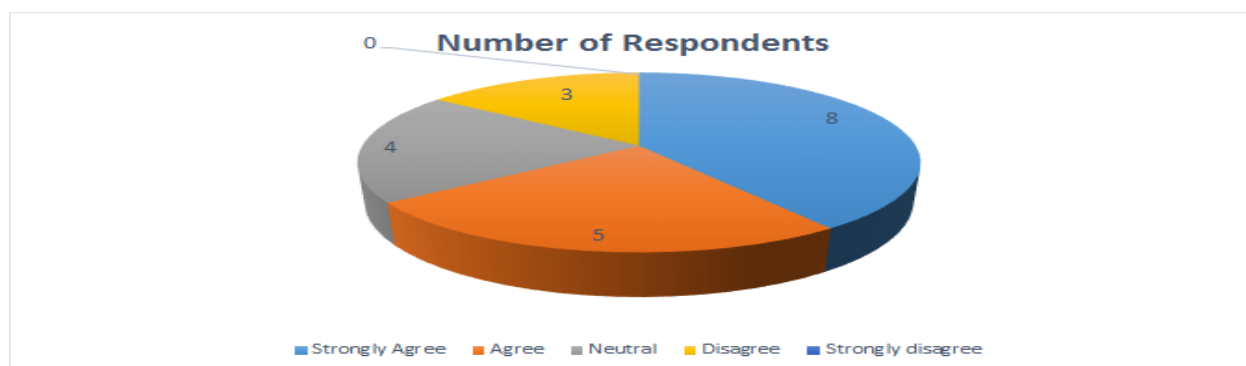
**Analysis:** The above pie chart shows how the respondents responded to the fact that SERP tool analysis helps in comparing websites with its competitors. It is seen that, out of 20 respondents, 7 people agreed and 7 strongly agreed to the fact, 3 people gave neutral answers, 2 people disagreed and 1 strongly disagreed. The only way to be in the number one position in SERP is to study other competitors. The more business will keep a track of its competitors in the business market, they will perform better. It will help them understand their areas of improvement and they can work on them to make them better in performance. It helps the companies understand the missed opportunities and find out those areas which would help them stay ahead of the curve in this market of competition.

#### **8. The online advertising campaign can be influenced by SEO and SERP**

<b>Responses</b>	<b>Number of Respondents</b>	<b>Total Respondents</b>	<b>Percentage</b>
Strongly Agree	8	20	40
Agree	5	20	25
Neutral	4	20	20
Disagree	3	20	15
Strongly disagree	0	20	0

**Graph 8. Impact of SEO and SERP on advertising**

**(Source: Self-developed)**



**Graph 9. Impact of SEO and SERP on advertising**

**(Source: Self-developed)**

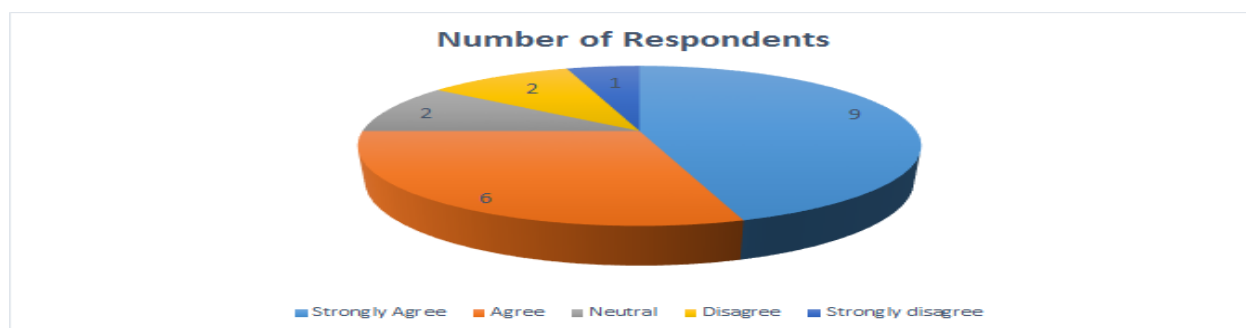
**Analysis:** The above figure and the table represent the online advertising campaign that can be influenced by SEO and SERP and how the respondents have responded to the scenario. It has been observed that out of 20 respondents 8 people strongly agreed, 5 people agreed, 4 people gave a neutral reply and 3 people disagreed with this fact; no one strongly disagreed. SEO does not directly affect a website's organic search rankings. Search engine advertising campaigns are a great weapon for online marketing and digital marketing. The advertisements give an opportunity to publish advertisements in its partner networks. They are generally very effective and helpful in digital marketing from a business perspective. Thus, it can be said that both SEO and SERPs influence online advertising campaigns to some extent so that they can play a good role in the marketing industry.

#### **9. Coding skills are essential for SEO and SERP algorithms and interpretation.**

<b>Responses</b>	<b>Number of Respondents</b>	<b>Total Respondents</b>	<b>Percentage</b>
Strongly Agree	9	20	45
Agree	6	20	30
Neutral	2	20	10
Disagree	2	20	10
Strongly disagree	1	20	5

**Table 9. Coding skills and SEO and SERP**

**(Source: Self-developed)**



**Graph 10. Coding skills and SEO and SERP**

**(Source: Self-developed)**

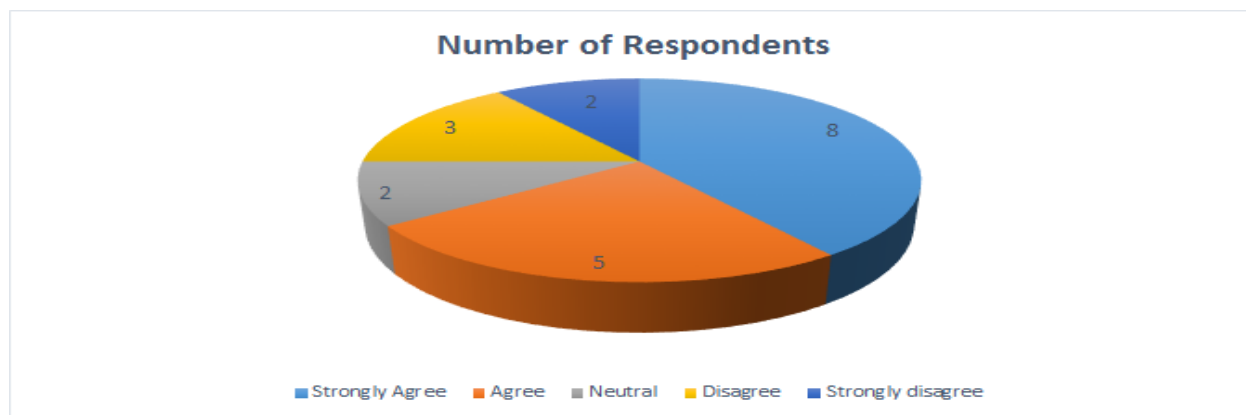
**Analysis:** The above diagram represents whether coding skills are essential for SEO and SERP algorithms and interpretation. A survey was carried out with 20 respondents out of which 9 people strongly agreed, 6 people agreed, 2 people gave neutral answers, 2 people disagreed, and 1 person strongly disagreed. From the survey, it can be said that SEO and SERP work on the mathematical algorithmic concept. Computer engineer's workday and night to improve and develop algorithmic logic every day. The algorithms help understand the keywords which the users input while searching something in the search engine and gives the most relevant search results to the users as output. Without SERP and SEO, it would have been almost impossible to sort the search results. These mathematical algorithms are used to retrieve data from its search index and immediately provide the best possible results for search input. The search engine uses a combination of algorithms to deliver related web pages according to relevance as results.

#### **10. SEO and social media are interrelated**

<b>Responses</b>	<b>Number of Respondents</b>	<b>Total Respondents</b>	<b>Percentage</b>
Strongly Agree	8	20	40
Agree	5	20	25
Neutral	2	20	10
Disagree	3	20	15
Strongly disagree	2	20	10

**Table 10. Relationship of social media and SEO**

**(Source: Self-developed)**



**Graph 11. Relationship of social media and SEO**

**(Source: Self-developed)**

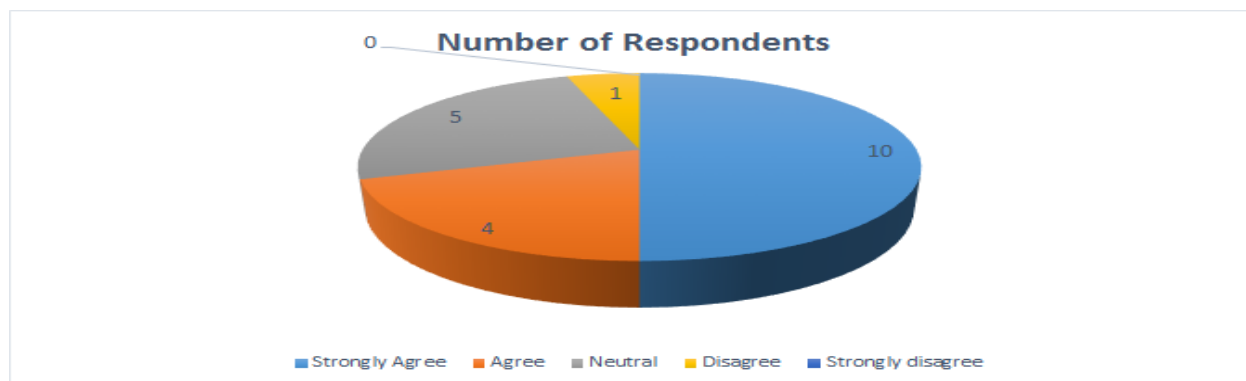
**Analysis:** The above representation shows how SEO and social media are interrelated. The survey was conducted on 20 respondents out of which 8 people strongly agreed, 5 people agreed, 2 people gave a neutral answer, 3 people disagreed, and 2 people strongly disagreed with the fact. SEO and social media are strongly interrelated. Social media promotes content marketing and SEO ensures that digital activities improve search engine ranking in a search result. The search engines always prefer the most relevant content and web pages to rank first in the search engine results. Keywords are used for searching any query. Search engines look into social media networks like Facebook, Twitter posted by users. The more the number of followers the more is the opportunity for the contents to be shared among the public and subsequently the number of views and likes increases.

### **11. Artificial Intelligence plays a very important role in SEO.**

<b>Responses</b>	<b>Number of Respondents</b>	<b>Total Respondents</b>	<b>Percentage</b>
Strongly Agree	10	20	50
Agree	4	20	20
Neutral	5	20	25
Disagree	1	20	5
Strongly disagree	0	20	0

**Table 11. Role of AI in SEO**

**(Source: Self-developed)**



**Graph 12. Role of AI in SEO**

**(Source: Self-developed)**

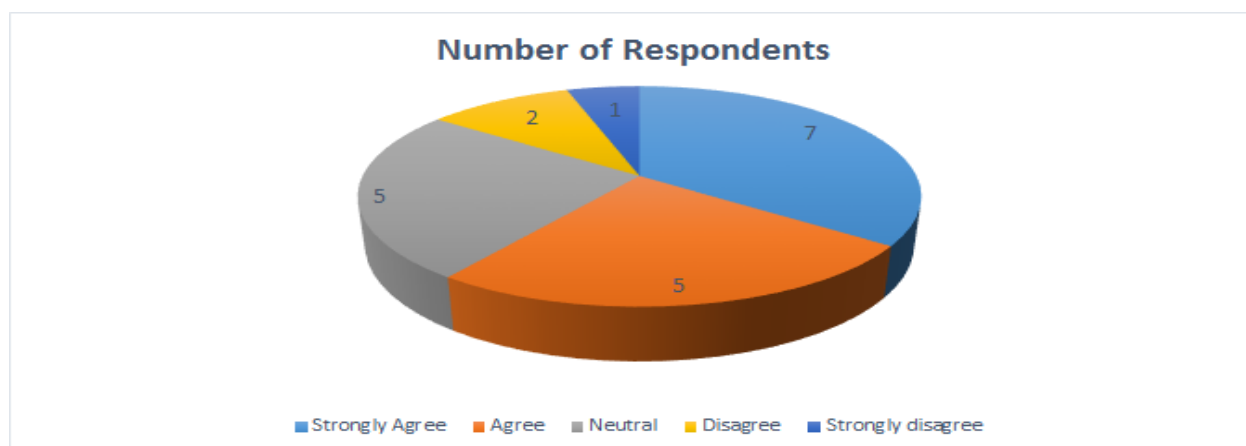
**Analysis:** The above diagrammatic representation shows Artificial Intelligence and its role in SEO. It is seen that out of 20 respondents 10 people strongly agreed, 4 people agreed, 5 people gave a neutral answer, 1 person disagreed; there was no one who strongly disagreed with the fact. As per the study it is seen that AI is becoming an important component of SEO. SEO mostly relies on AI applications. With the help of AI when a user wants to search something in a search engine, it provides better results to the searches of the user. AI helps in managing automation, creating better strategies, and improving page rankings as the search results. AI is also important for marketing and other business strategies. With the help of AI, the search engines are developing smart techniques to provide an accurate result as per the need of the customer.

### **12. Web traffic is a major part of SEO**

<b>Responses</b>	<b>Number of Respondents</b>	<b>Total Respondents</b>	<b>Percentage</b>
Strongly Agree	7	20	35
Agree	5	20	25
Neutral	5	20	25
Disagree	2	20	10
Strongly disagree	1	20	5

**Table 12. Role of Web traffic in SEO**

**(Source: Self-developed)**



**Graph 13. Role of Web traffic in SEO**

**(Source: Self-developed)**

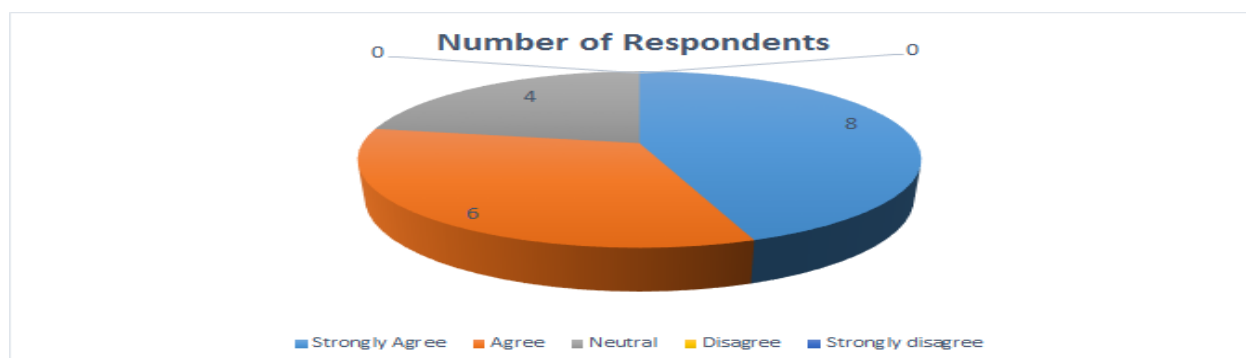
**Analysis:** The above diagram represents how web traffic plays a major part in SEO. It is observed that, out of 20 respondents 7 people strongly agreed, 5 people agreed, 5 people gave a neutral answer, 2 people disagreed, and 1 person completely disagreed with the fact. This is a much-debated topic whether web traffic affects the ranking of a webpage in a search result or not. To some extent it is correct. SEO can increase web traffic by making sure that the website features in relevant searches which would induce a greater number of people visiting and clicking the webpage link. It is generally observed that the websites who invest more would get more than 50% of the web traffic. Web traffic can be organic or inorganic in nature thus depending on the amount of web traffic.

### 13. SEO and SERP enhance business profitability

Responses	Number of Respondents	Total Respondents	Percentage
Strongly Agree	8	20	40
Agree	6	20	30
Neutral	4	20	20
Disagree	0	20	0
Strongly disagree	0	20	0

**Table 13. Impact of SERP and SEO on business profitability**

**(Source: Self-developed)**



**Graph 14. Impact of SERP and SEO on business profitability**

**(Source: Self-developed)**

**Analysis:** The above survey was done on 20 respondents and was represented with the help of a pie chart. It showed how SEO and SERP help in enhancing business profitability. Out of 20 respondents 8 people strongly agreed, 6 people agreed, and 4 people gave a neutral answer. There was no one who disagreed or strongly disagreed to the fact. Organic and paid search results largely affect the audience view of a webpage. The mathematical algorithms help in staying a webpage on the first page of a search result done by a user. SEO and SERP helps in aligning the search result as per requirement. With more number of webpage visits, it helps in more public engagement and interests shown by people. In this way SEO and SERP helps in enhancing business for an organization.

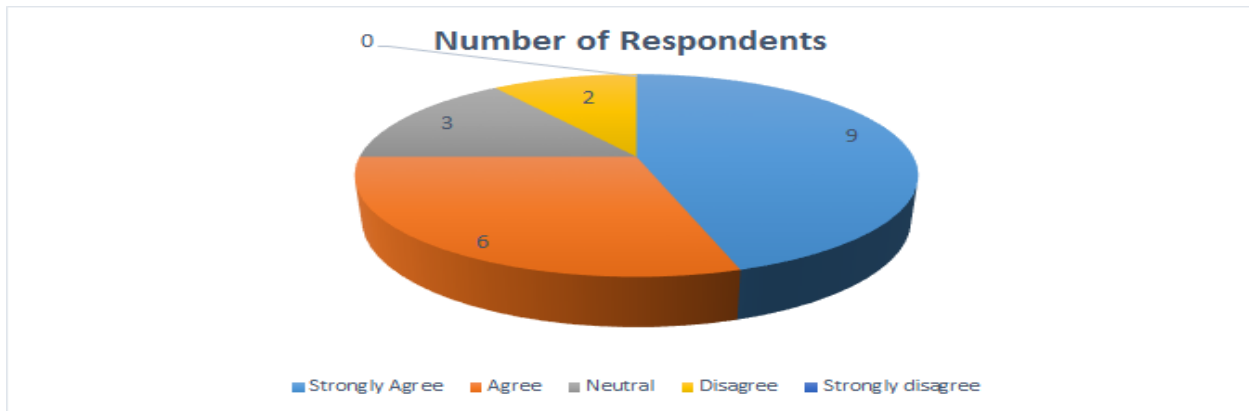
#### **14. The no-click search is one of the best features of SEO**

<b>Responses</b>	<b>Number of Respondents</b>	<b>Total Respondents</b>	<b>Percentage</b>
Strongly Agree	9	20	45
Agree	6	20	30
Neutral	3	20	15
Disagree	2	20	10
Strongly disagree	0	20	0

**Table 14. Relationship of no-click search and SEO**

**(Source: Self-developed)**





**Graph 15. Relationship of no-click search and SEO**

**(Source: Self-developed)**

**Analysis:** It is seen that the no-click search is the most advanced feature of a search result. Here when a user inputs his query in a web search it is seen that many times in the search result, it is not required to click on any web link. The first search result on top of the page gives the details of the search and there is no requirement to click on any links. A survey was done with 20 respondents out of which 9 people strongly agreed, 6 people agreed, 3 people gave a neutral answer and 2 people disagreed with the fact; no one strongly disagreed. AI is also one of the reasons for such search results. It is said that in the coming future maximum search results will be no-click and SEO will advance more in its technicalities. Thus, the future of SEO and SERP is going to bring a complete change in the world of technologies.

## **4 Results and Discussion**

### **4.1 Results**

According to online form conducted collected by web-developers and marketers, it can be said that current state between SEO and SERP is that they are two inter-related terms which are interdependent on each other. They are the two most used terminologies in today's world. The Internet has become an integral part of our daily lives, be at home or in the office, or in any business organization. The internet is inseparable from our lives. SEO is the technique by which page visibility of a particular website can be increased (Pohjanen, 2019). SERP refers to any search engines which are used to search any query on the internet. Various companies increase their page visibility with the help of SEO which helps in increasing the web traffic. SEO is widely divided into two types- organic search results and paid search results. Whenever a user searches anything in a search engine, both organic and paid search results are displayed as a search result. The top few search results are the paid ones which generally have an "Ad" tagged to it as advertisements are sponsored on clicking on these links. Most of the users click on the search results on the first page of the search results and no one goes to the pages after that. So it is very important for a business that their web page ranks on the first page of the search results.

For a business, it is very difficult to grow online if it does not have proper leads. It is seen at times that some web pages take longer to load and open than the others. In those cases, it is important for businesses to improve their webpage (Belair-Gagnon & Holton, 2018). When a user searches something in the search engine, the results that they can see are done on the basis of a mathematical algorithm. These mathematical algorithms help users with the most relevant answers to their queries. The algorithm is complicated technology and works on keywords searched by the users, thus providing the most appropriate answers. SEO and web security are two interrelated terms and help in cybersecurity (Taneja & Vij, 2019). Although no search engines can provide 100% protection from cyber-attacks Google provides very strict measures to secure its websites and prevents security breaches. With the help of advertisements campaigns, a particular group of audience is set up. Google helps and finds results with the help of keyword searches whereas on social media websites it is not possible. Ad campaigns are monitored through a few metrics like

cost per click, click-through rate, conversion rate, and impression share. SERP analysis helps in evaluating top ranking websites and it is checked whether the keywords used are relevant or not. It also helps in comparing a company's website with its other competitors. There is a basic difference between paid and organic web searches. In paid web searches marketers invest in search engine marketing so that their webpages are visible on top of the search results. Online and offline marketing has become very popular now and can together impact marketing results. Google's algorithm is top-secret. The No-click search feature of Google is one of the finest advancement of technologies.

## **4.2 Discussion**

Concerning the correlation and current state between SEO and SERP, they are interdependent on each other in many ways. It is completely related to search engine optimization and how the search results are affected when a user searches a particular query in the search engine (Kaushal & Charmi, 2019). The usage of keywords to search the desired results and the mathematical algorithm used by Google to search and give the output with the best possible results for the user is one of the best features of SEO and SERP. Both together make the search results error-free and fine. When a user searches a particular query in the search engine, the web searches provide a list of search results out of which some are paid, and some are organic. Business organizations having a webpage pay the web searches so that their websites are seen at the top of the web search results (Saura, Palos-Sánchez & Cerdá Suárez, 2017). The advertisements are related to paid links. As no one would see any webpage beyond the first page of search results. Therefore, it is almost a competition among the websites to occupy the first position on the webpage. The page visibility of a particular webpage can be increased by increasing the traffic on that particular website which is possible by the increased number of clicks on that webpage.

In terms of improvement suggestions, it can be clarified that SEO and SERP affect business to a large extent. It is advisable that every organization, whether big or small, should have a web page of its own so that they get a wider approach to the public and an increased number of people who would know about their business. Thus, in this way, the business would increase and flourish. Organic search results are constantly competing with paid search results. One of the best and

competitive features of SERPs is no-click searches. In no-click searches, when the users search something in a search engine like Google, it gets a list of search results and on the top of the search result page, the user gets the answer to his query where he/she does not have to click on any webpage links. This feature makes the search more effective and saves time to a large extent. It is said that in the near future almost 80% of the search results would be no-click searches. The increase in webpage traffic also helps the business as the more traffic a website has the more visibility it has to the public.

In general, the interrelation between SEO and SERP is the most important part of this survey (Patel & Atkotiya, 2020). This interrelation is the root of every search result optimization. SEO is the technique by which page visibility can be increased and SERP refers to search engines that are used to search any specific query. SEO can be increased by paid options where marketers have to pay the search engine so that their webpages are shown on top of the search results and which in turn would increase the traffic on those webpages, thus enhancing business (Vincent & Hecht, 2020). Paid and organic types of SEO are the most popular, among which organic has more demand. Paid search results are not for everyone; business organizations who want that their webpage link would reflect on top of the search engine result using paid searches. The paid results are mostly linked with an advertisement as sponsorship (Nattestad & Schatz, 2016). The number of times these page links are clicked, the advertisements earn money from them, thus encouraging monetization. They are alternatively known as pay per click searches, where money-making is involved where both parties help each other one to make money and others to enhance business.

## 5 Conclusion

Thus, from the entire research survey and study the correlation of SEO and SERP, it is seen that they are interdependent on each other and one is incomplete without the other (Manfron, 2018). They help in enhancing the search results when a user searches something in the web search. SERP helps in getting the exact search results and it does that with the help of mathematical algorithms and keyword searches. SEO and SERP help in enhancing business and increased effectiveness. The search results are also prone to cyber-attacks and so the engineers are constantly working to enhance the algorithms and programming's to protect data. Google is a place where millions of webpages are there with many details which if hacked would have a havoc effect on millions of businesses and companies. The trust that the companies have on Google will be lost and a big brand name like google cannot compromise on that. Thus, Google's data security is very stringent and although nothing can be completely safe from hackers, but still Google promises maximum data security. For a business to set up its webpage on top of the search result, it has to pay the advertising sponsors who would help them locate their webpage on top in return of a certain amount (Konidaris & Koustoumpardi, 2018). And on the other hand, the advertisements would also make money from them. Thus it is a two-way business. The more the number of page clicks and page visits, the more web traffic on that webpage. The increased web traffic would help in increased business and profitability. As we cannot think of a day without web search like Google, thus SEO and SERP are also integrally related. The Internet is a mandatory part of our life starting from money transactions, banking, online purchase, office work, or any kind of regular searches. We need SEO for any little help.

SEO requirement keeps on changing and it is very difficult to keep up with all the latest updates and developments. More traffic means more leads and in turn more sales. Users would not be able to search any websites without the help of SEO (Kautto Ernberg, 2019). There are a few basic factors that are necessary for SEO ranking factors like URL, social signals, page speed, secure accessible website, optimized content, real business information, etc. Google's complex algorithms help in deciding which content will be displayed in which order and how. According to ratings of Google's search quality, it checks factors like quality of the content, website and content creator reputation, user interaction with the page, the purpose of the page, expertise, etc.

All factors of SEO and SERP are the ones that help in making the search results effective with increased efficiency and perfectness. The future of SEO is going to be more advanced and with a modern approach. Robotics and artificial intelligence would be another two terms which would involve in search result optimization terminologies. Thus, the future is going to observe a massive change in the internet world as a whole.

In the case of SEO and SERP, the search results with the help of targeting keywords are very important. There are some recommendations enlisted for SEO and SERP:

- *Find out why websites are getting slowed down and fix it-* At times it is seen that some web pages take longer time to load than others. In those cases, the reason for slowness needs to be identified and fixed. In case they are not fixed, users will not come and visit that webpage again.
- *Link other websites with relevant content-* Linking to other websites with relevant content can be done with the help of SEO and SERP. Relevant content pages are very important for search engine optimization strategy.
- *Encourage other websites that are trustworthy for linking-* Content marketing is about creating high-quality content so that other websites can link with trust (Gibney, 2016).
- *Web analytics-* Web analytics help in tracking what is working in a web search and what's not. There are certain software and applications which help in checking web analytics.
- *Writing a unique meta description for every page-* Meta description is one of the important aspects of SEO which is often neglected. It helps in distinguishing meta descriptions for every webpage. For example, the same meta description used for a page that talks about email marketing and a page that talks about making sales should not be similar.
- *Use proper URLs-* It is important that the URLs should be clear and understandable. If users are unable to read and understand the URL, search engines would also get confused (Ištvančić, Crnjac Milić & Krpić, 2017).
- *Relation with social signals-* SEO and social media are integrally related to each other. Social signals impact the rankings of search engine results. Shares on social media like Facebook, Twitter, etc. create an impact.

- *Usage of correct keywords in images-* Google images has a completely separate position in the search results. Proper usage of keywords is very important for image search when the user is looking for something in the Google images.
- *Creation of unique content to improve the ranking-* According to content marketing, the uniqueness of content is one of the key features to improve ranking in the search results. It is a challenge for most marketers. It is like creating something fresh and unique which has not been done before (Seo & Kim, 2020).

## 6 References

Ahrefs.com. (2020). Retrieved 26 August 2020, from <https://ahrefs.com/blog/serps/>.

Alase, A. (2017). The Interpretative Phenomenological Analysis (IPA): A Guide to a Good Qualitative Research Approach. *International Journal of Education and Literacy Studies*, 5(2), 9-19.

Belair-Gagnon, V., & Holton, A. E. (2018). Boundary work, interloper media, and analytics in newsrooms: An analysis of the roles of web analytics companies in news production. *Digital Journalism*, 6(4), 492-508.

Boddy, C. R. (2016). Sample size for qualitative research. *Qualitative Market Research: An International Journal*.

Cirovic, S. (2020). *Comparative analysis of SEO factors across and within distinct industries—ecommerce, hospitality, telecommunications* (No. GRI-2020-26734). Aristotle University of Thessaloniki.

Cole, A. P., & Trinh, Q. D. (2017). Secondary data analysis: techniques for comparing interventions and their limitations. *Current opinion in urology*, 27(4), 354-359.

Gibney, E. (2016). Google AI algorithm masters ancient game of Go. *Nature News*, 529(7587), 445.

Gu, Z., Zhao, F., Chen, J., & Jiang, J. (2020, January). Sampling Statistics Research Based on Quality Evaluation of Electricity Meters from Different Manufacturers. In *Journal of Physics: Conference Series* (Vol. 1437, No. 1, p. 012075). IOP Publishing.

Ištvančić, M., Crnjac Milić, D., & Krpić, Z. (2017). Digital marketing in the business environment. *International journal of electrical and computer engineering systems*, 8(2.), 67-75.

Ištvančić, M., Crnjac Milić, D., & Krpić, Z. (2017). Digital marketing in the business environment. *International journal of electrical and computer engineering systems*, 8(2.), 67-75.



Kaushal, S., & Charmi, S. (2019). SEO: Challenges and Characteristics. *International Journal of Data Structures*, 5(1), 15-20.

Kautto Ernberg, N. (2019). Analyzing Google SERP: Swedish Search Queries.

KauttoErnberg, N. (2019). Analyzing Google SERP: Swedish Search Queries.

KauttoErnberg, N. (2019). Analyzing Google SERP: Swedish Search Queries.

Kaya, A., Keceli, A. S., Catal, C., & Tekinerdogan, B. (2020). Model analytics for defect prediction based on design-level metrics and sampling techniques. In *Model Management and Analytics for Large Scale Systems* (pp. 125-139). Academic Press.

Kennedy, A. M. (2017). Macro-social marketing research: Philosophy, methodology and methods. *Journal of Macromarketing*, 37(4), 347-355.

Konidaris, A., & Koustoumpardi, E. (2018). The Importance of Search Engine Optimization for Tourism Websites. In *Innovative Approaches to Tourism and Leisure* (pp. 205-218). Springer, Cham.

Konidaris, A., & Koustoumpardi, E. (2018). The Importance of Search Engine Optimization for Tourism Websites. In *Innovative Approaches to Tourism and Leisure* (pp. 205-218). Springer, Cham.

Manfron, E. (2018). *The Importance of Local SEO: Strategies to Improve Local Business* (Bachelor's thesis, Università Ca'Foscari Venezia).

Manfron, E. (2018). *The Importance of Local SEO: Strategies to Improve Local Business* (Bachelor's thesis, Università Ca'Foscari Venezia).

Meyers, L. S., Gamst, G., & Guarino, A. J. (2016). *Applied multivariate research: Design and interpretation*. Sage publications.

Mills, G. E., & Gay, L. R. (2019). *Educational research: Competencies for analysis and applications*. Pearson. One Lake Street, Upper Saddle River, New Jersey 07458.

Moss, S. M., Uluğ, Ö. M., & Acar, Y. G. (2019). Doing research in conflict contexts: Practical and ethical challenges for researchers when conducting fieldwork. *Peace and Conflict: Journal of Peace Psychology*, 25(1), 86.

Nattestad, M., & Schatz, M. C. (2016). Assemblytics: a web analytics tool for the detection of variants from an assembly. *Bioinformatics*, 32(19), 3021-3023.

Paradis, E., O'Brien, B., Nimmon, L., Bandiera, G., & Martimianakis, M. A. (2016). Design: selection of data collection methods. *Journal of graduate medical education*, 8(2), 263-264.

Patel, M. A. K., & Atkotiya, K. H. (2020). A REVIEW PAPER ON SEO FOR RANKING AND EFFECTIVENESS TECHNIQUES IN CONTEXT OF GOOGLE SEARCH ENGINE. *Paripex-Indian Journal of Research*, 9(1).

Pohjanen, R. (2019). The Benefits of Search Engine Optimization in Google for Businesses.

Poliakov, M. (2020). *Google "Ranking Factors" Correlation Study Explained | SEO Blog of Link-Assistant.Com*. Link-assistant.com. Retrieved 26 August 2020, from <https://www.link-assistant.com/blog/google-ranking-factors-correlation-study-explained/>.

Saura, J. R., Palos-Sánchez, P., & Cerdá Suárez, L. M. (2017). Understanding the digital marketing environment with KPIs and web analytics. *Future Internet*, 9(4), 76.

Schoonenboom, J., & Johnson, R. B. (2017). How to construct a mixed methods research design. *KZfSS Kölner Zeitschrift für Soziologie und Sozialpsychologie*, 69(2), 107-131.

*SEO Ranking Factors & Correlation: What Does It Mean When a Metric Is Correlated with Google Rankings?*. Moz. (2020). Retrieved 26 August 2020, from <https://moz.com/blog/seo-ranking-factors-and-correlation>.

Seo, H., & Kim, J. (2020). A Study on the Corporate Members' Autonomy-centric Security Management in the Context of Internet Companies. *The Journal of Society for e-Business Studies*, 25(1), 45-64.

Sim, J., Saunders, B., Waterfield, J., & Kingstone, T. (2018). Can sample size in qualitative research be determined a priori?. *International Journal of Social Research Methodology*, 21(5), 619-634.

Sui, Y., Zhang, X., Huan, J., & Hong, H. (2019, July). Exploring data sampling techniques for imbalanced classification problems. In *Fourth International Workshop on Pattern Recognition* (Vol. 11198, p. 1119813). International Society for Optics and Photonics.

Taneja, G., & Vij, S. (2019). Dynamics of a Digital Advertising Campaign. In *Proceedings of 10th International Conference on Digital Strategies for Organizational Success*.

Vincent, N., & Hecht, B. (2020). A Deeper Investigation of the Importance of Wikipedia Links to the Success of Search Engines. *arXiv preprint arXiv:2004.10265*.

*What Does SERP Mean? Search Marketing Jargon Explained*. Wordstream.com. (2020). Retrieved 26 August 2020, from <https://www.wordstream.com/serp#:~:text=Search%20engine%20results%20pages%20are,presents%20them%20with%20a%20SERP>.

*What is SEO and How It Works? [Here's the Answer]*. Digital Marketing Blog.(2020). Retrieved 26 August 2020, from <https://www.lyfemarketing.com/blog/what-is-seo-and-how-it-works/>.

## 7 Appendices

### Questionnaire on Correlation of SEO with SERP

SEO is a complicated architecture and needs proper attention from organisation

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

SEO and SERP are interdependent variables

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Online presence is an indispensable element of contemporary trade

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Organic and Inorganic search results are variables for trade efficacy

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

SEO and SERP can together impact overall marketing.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

SEO and SERP are used by your organization in regular operations.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Coding skills are essential for SEO and SERP algorithms and interpretation

- Never
- Occasionally
- Sometimes
- Often
- Always

SERP tool analysis helps in comparing websites with its competitors

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

SEO and social media are interrelated

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

The online advertising campaign can be influenced by SEO and SERP

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Artificial Intelligence plays a very important role in SEO

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Web traffic is a major part of SEO

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

SEO and SERP enhance business profitability

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

The no-click search is one of the best features of SEO

- Never
- Occasionally
- Sometimes
- Often
- Always