

Article No.3

AN ANALYSIS TO UNDERSTAND THE EFFECTIVENESS OF SEARCH ENGINE PARAMETERS FOR ONLINE CONSUMER ENGAGEMENT

Dr. Pragati Saxena
Principal, Hierank Business School, Noida

Abstract : “Give users actually what they want not what they say” quote by Kathy Seira, that exactly defines the work of search engine. Information is an integral part of human life. It's like an atom present in each and every element of environment. Search engines plays a major role in finding out the solution of any problem in today's scenario. Search engines add values to information by presenting it such a way that it can be easily understood by its users and satisfy their routine needs. Numerous data is available on variety of search engines. But there are many qualitative and quantitative factors that make each search engine a unique one. The paper discusses such performance parameters of Search engine. A conceptual model has been developed that focuses on the important aspects of Information consumers and Information feeders. The paper does a study to understand the relationship between the valuable parameters responsible for consumer (Information Users) engagement at the Search engine. A questionnaire has been prepared using Google doc and data is collected through online and offline Survey. A correlation analysis has been done between Search engine parameters and consumer engagement using SPSS tool. The parameters discussed here are: Quality of Information, Listing of results and Search Engine features. The paper also does a comparative study to find out the most effective parameter among all.

Keywords: Search Engines, information consumers, likert scale, search engine listing, correlation.

Introduction

“Information and business are becoming inextricably interwoven. I don't think anybody can talk meaningfully about one without the talking about the other” quote by Bill Gates. Information age has made mandatory for its billions of users to use the tool of search engine to carry out their routine task. Search engine is a web software program available over the Internet that searches documents and files for keywords and returns the list of results containing those keywords. Search engines are the websites, which help users find the appropriate information they are looking for by narrowing the results from the list of numerous information present in the web. Search engines are an indispensable platform for users all over the globe to search for relevant information online.

The internet is flooded with lots of search engines, apps and software's which are making humans more and more dependent on technologies but the most widely used are search engines. The volume and kind of information available online is dynamic and enthralling. Today, Variety of search engines are available on the Internet, each with their

own techniques, functionalities and specialties. Currently the search engines that booming the internet are Google, Yahoo, Bing and Ask but most popular one is Google.

The paper discusses two types of internet users -Information feeders and Information users(consumer's) .Information feedersare using search engines as their marketing tool for promoting their products or services among the information consumers. It helps to increase the amount and quality of sales leads of desired products or services. The paper does a comparative study of qualitative parameters that make the search unique in its own way. The analysis of these parameters is done through survey with the main objective of finding out the most important one for consumer engagement. The paper also evaluates the correlation between the information consumer engagement and search engine parameters to find out the strength of their relationship. Google doc for preparing questionnaire and SPSS tool for carrying out correlation analysis has been used. Data is collected through online as well as offline mode.

Literature Review

Technology has created an immense impact on people of all ages. Specially the Internet of things are luring their customer and engaging them to spend most of their time on laptops and electronic gadgets. Earlier people use dictionaries to understand a word and its meaning and now they directly go to search engines to better understand it. Dependency on search engines has increased with time among information consumers. Not only the tech savvy younger generation but the older ones also are finding search engines more interesting. There is a long list of search engines but the most extensively used search engines are Google, Yahoo, Bing as per the survey done in one of the paper[1].

Numerous information provided by them consists of web pages: blogs, articles, social media, videos, picture galleries and other types of files. Web-based search engines allow millions of people from all over the world to search for important information about anything ranging from articles, news, sport, history, products, to multimedia and many more. Webbased search engine has been of great importance to everyone that has access to the internet service. It has many impacts on people in their lifestyle, cultural values, beliefs and creating the awareness among the society[2].

Two parties that are getting the maximum benefits through IOT are the Search engine information feeders(Business)and online Information consumers(Users). Most Web search engines are commercial ventures supported by advertising revenue and, as a result, some employ the practice of allowing advertisers to pay money to have their listings ranked higher in search results. Those search engines which do not accept money for their search engine results make money by running search related ads alongside the regular search engine results. The explosive growth of the World Wide Web has proven to be a double-edged sword. While an immense amount of material is now easily accessible on the Web, locating specific information remains a difficult task[3].

Search Engine Marketing (SEM) is the set of activities that involves Search Engine Optimization (SEO), Social Media Marketing (SMM) and other search engine related functions. For getting the relevant results ,companies are using (SEO)techniques.Search

engine optimization (SEO) refers to a technique that helps website rank higher in organic or “natural” search results, thus making website more visible to people who are looking for product or service via search engines [4]. Most of the people concentrate on the first page during their search for a result. There are a few people who literally jump to the next page of the search; therefore being visible in the first page and towards the top adds traffic and potential customers to the business.

The usefulness of a search engine depends on the relevance of the result set it gives back. Every search engine uses different complex mathematical formulas to generate search results. While there may be millions of web pages that include a particular word or phrase, some pages may be more relevant, popular, or authoritative than others. Most search engines employ methods to rank the results to provide the "best" results first. How a search engine decides which pages are the best matches, and what order the results should be shown in, varies widely from one engine to another[5].

Search Engine Marketing Management (SEMM) integrates marketing management process that promotes the position of the website’s products or services towards the beginning of the search result in SERP which in turn increase its business[6]. SEM relates to the inclusion of all SEO activities but focus on return on investment (ROI), instead of relevant traffic building. SEM also integrates organic SEO and paid SEO. Social Media Marketing uses one or several social media channels to engage with customers, build relationships and then sell our products or services[7].

Objective Of The Paper

Search Engine is the flesh and blood for online users. Billions of Information consumers are using variety of search engines for different types of information related to academics, research, products and services, shopping etc. On the other hand Information feeders are using this platform for advertising and promoting their products and services and doing business.

The objective of this paper is

- To develop a conceptual model that represents the both aspects of search engine mentioned above.
- To analyze the three parameters of search engine associated with consumer engagement using Likert scale.
- To evaluate their relationship with consumer engagement through correlation analysis.
- To identify the most important parameter responsible for search engine performance from consumer point of view.
- To identify the most important parameter responsible for search engine performance from consumer point of view.

Research Methodology

To conduct this study a questionnaire is designed as a research instrument using Google doc .The questions were rated on a five-point Likert scale from "strongly agree" (1) to "strongly disagree" (5).Questionnaire link has been shared with all the participants through e-mail. Their responses are collected, analyzed and evaluated. A correlation analysis has been carried out using SPSS tool.Correlation analysis shows the strength of association between two elements.The data collected is further analyzed to understand the preference of respondents.

The questionnaires prepared have been divided into 3 sections;

- The first section concentrates on the general profile of the respondents and their awareness about the search engines.
- The second section concentrates on the elements associated with: Search engine features, listing of results, Quality of information.
- The third section consists of questions related to customer satisfaction which the said customer gets from desired search results.

Conceptual Model

A conceptual model has been developed representing the parameters affecting the performance of search engine. As per the model an information consumer invests their time, money and other resources to search the required information. They put different keywords to get the relevant information. Many parameters describes the effectiveness of search engine such as: Quality of Information, Listing of results and Search Engine features. This greatly defines the consumer engagement and finally the consumer satisfaction.

It also focuses on the other side of the coin i.e, Information feeders (which add and uploads variety of information to search engines) and their importance.

The important elements associated with information feeders are: Organic Listing, Paid listing, Social Media Listing, Search engine optimization tools etc.

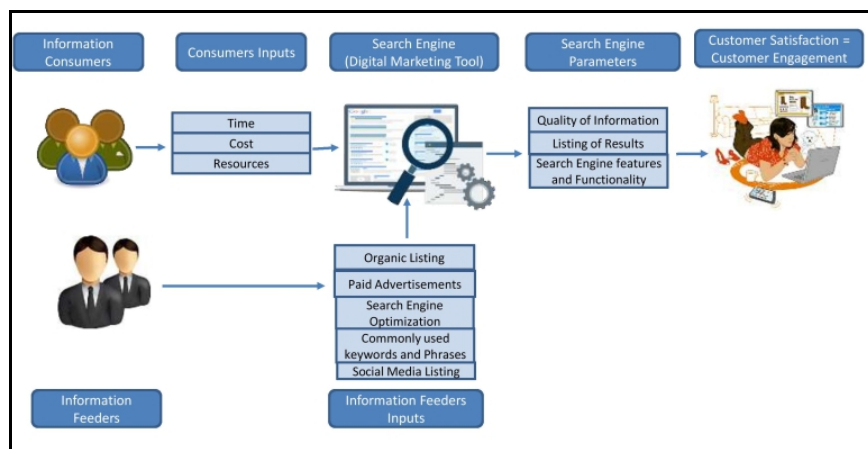


Fig 1:Conceptual Model to study the Search engine parameters effecting Consumer Engagement

The information uploaded by Information feeders makes the search engine relevant for the consumers. They play an important role in making search engine platform a success. Based on this model a questionnaire is developed to find out the most preferred parameters by information consumers.

Analysis And Findings

This paper analyzes and compares the Search Engine parameters with Customer Engagement using Bivariate Correlation analysis. A SPSS (Statistical Package for the Social Sciences) tool has been used to do the analysis.

The Questionnaire has been divided into three parts and each focuses on the effectiveness of search engines.

Association Between Quality Of Information And Customer Engagement

A sample of 50 information Consumers of different categories and age groups has been taken to analyze the strength of relationship between Quality of Information and consumer satisfaction .

The quality of information is one such aspect that search engine users always prefer to have. The quality comes with unprejudiced, fair, relevant and useful information.

Table 1: %Count of participant for Search Engine Quality of Information

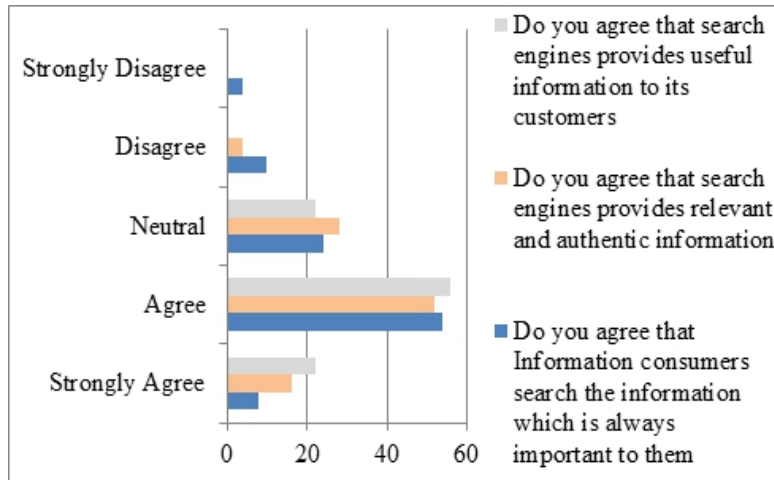
Criteria	Do you agree that Information consumers search the information which is always important to them	Do you agree that search engines provides relevant information	Do you agree that search engines provides useful information to its customers
Strongly Agree	8	16	22
Agree	54	52	56
Neutral	24	28	22
Disagree	10	4	0
Strongly Disagree	4	0	0

Tabular data shows that 8% strongly agree and 54% agree that the consumers search the information which is always important to them. 16% strongly agree and 52% agree that the search engines provides relevant information.

22% strongly agree and 56% agree that search engines give useful and fair information.

Percentage of users who disagree with this fact is negligible.

Graph 1 represents the tabular data of table 1 in graphical form. Different colors (Blue, Grey and Orange) are used for three different questions. These are survey questions which is the part of Questionnaire.



Graph 1: Participant response to Search Engine Quality of Information

Table 2: Correlation analysis between Search engine Quality of Information and Consumer Engagement

Correlations		Consumer Engagement	Quality of Information
Consumer Engagement	Pearson Correlation	1	.630**
	Sig. (2-tailed)		.000
	N	50	50
Quality of Information	Pearson Correlation	.630**	1
	Sig. (2-tailed)	.000	
	N	50	50

Table 2 represents the correlation analysis between consumer engagement and Quality of information.

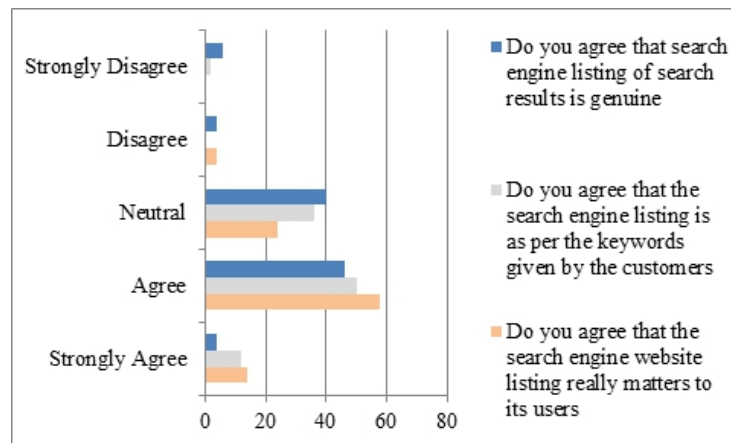
Association between Listing Of Results And Consumer Engagement

This part of the paper concentrates on listing of results done by the search engines.

Table 3: %Count of participant for Search Engine listing of results

Criteria	Do you agree that the search engine website listing really matters to its users	Do you agree that the search engine listing is as per the keywords given by the customers	Do you agree that search engine listing of search results is genuine
Strongly Agree	14	12	4
Agree	58	50	46
Neutral	24	36	40
Disagree	4	0	4
Strongly Disagree	0	2	6

The tabular data shows that 14% of users strongly agree and 58% agree that listing matters to them. 12% of the consumer strongly agrees and 50% agree that search engine listing is as per the keywords given by them. 4% strongly agree and 46% agree that the listing done by search engine is genuine. Above tabular data is represented in graphical form to make it more presentable.



Graph 2: Participant response to Listing of results

Table 4: Correlation analysis between Search engine Listing of Results and Consumer Engagement

		Customer Engagement	Listing of Results
Customer Engagement	Pearson Correlation	1	.322*
	Sig. (2-tailed)		.022
	N	50	50
Listing of Results	Pearson Correlation	.322*	1
	Sig. (2-tailed)	.022	
	N	50	50

Table 4 represents the correlation analysis between search engine listing of results and customer engagement.

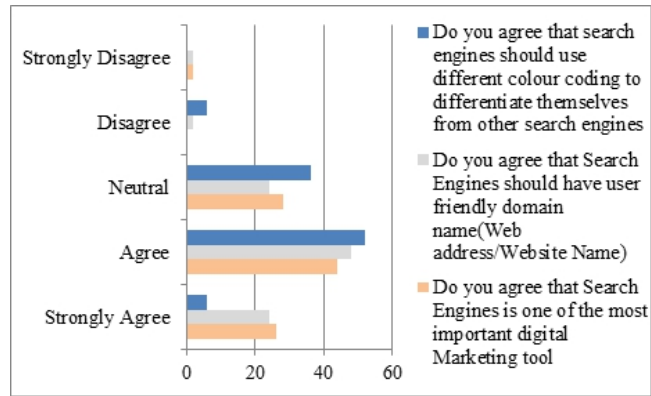
Association Between Search Engine Features And Consumer Engagement

Questions addressing the Search Engine features are prepared. Based on responses a graph depicting the impact of various elements associated with this parameter is created.

Table 5: %Count of participant for Search Engine features

Criteria	Do you agree that Search Engines is one of the most important digital Marketing tool	Do you agree that Search Engines should have user friendly domain name(Web address/Website Name)	Do you agree that search engines should use different colour coding to differentiate themselves from other search engines
Strongly Agree	26	24	6
Agree	44	48	52
Neutral	28	24	36
Disagree	0	2	6
Strongly Disagree	2	2	0

The survey results shows that the consumers are influenced by search engine features. 26% strongly agree and 44% agree that search engines are important digital marketing tool. 24% strongly agree and 48% agree that search engines should be user friendly. 6% strongly agree and 52% agree that color coding is important to differentiate from other search engines.



Graph 3: Participant response to Search Engine features

Table 6: Correlation analysis between Search engine features and Consumer Engagement

Correlations		
	Consumer Engagement	Search Engine Features
Consumer Engagement Pearson Correlation	1	.407**
Sig. (2-tailed)		.003
N	50	50
Search Engine Features Pearson Correlation	.407**	1
Sig. (2-tailed)	.003	
N	50	50

Conclusion

Search Engine performance is important for both the Information users as well as Information feeders. The paper discussed various aspects of search engine but the analysis of survey results shows that “Quality of Information” is the most important element that entangled online users. Correlation coefficient value is positive **0.630** for Quality of information which is the maximum among all three. The strength of relationship is strong and most liked by the users. The strength is positive but minimum **0.322** in case of listing of results. Search engine features shows moderate strength and correlation coefficient value is positive **0.407**. This shows that search engines are popular

among the information consumers due to the quality, fair unbiased and updated information. These elements make them a unique one.

References

- [1]http://www.elon.edu/e-web/imagining/surveys/2018_survey/Digital_Life_and_Well-Being_Anecdotes.xhtml
- [2]<https://pdfs.semanticscholar.org/928c/f116882e336a133c3824346ac73df136f060.pdf>
- [3]<https://www.lyfemarketing.com/blog/seo-advertising/>
- [4]<https://www.hubspot.com/hs-fs/hub/53/file-13221845-pdf/docs/ebooks/introduction-to-seo-ebook.pdf>
- [5] <http://infolab.stanford.edu/~backrub/google.html>
- [6]https://annals-csis.org/Volume_14/drp/pdf/24.pdf
- [7]<https://www.educba.com/seo-in-digital-marketing/>
- [8]http://www.icsti.org/IMG/pdf/INSIGHT_2010_JULY.pdf
- [9]<https://www.semanticscholar.org/paper/Conceptual-Models-for-Search-Engines-Hendry-Efthimiadis/bed2fd1d7a991d6871475cb4af22103390e4383a>
- [10]https://www.researchgate.net/publication/226695365_Conceptual_Models_for_Search_Engines
- [11]<https://designhammer.com/services/seo-guide/search-engines>
- [12]<https://www.theseus.fi/bitstream/handle/10024/69062/thesis%20final.pdf?sequence=1&isAllowed=y>
- [13]<https://ciir.cs.umass.edu/downloads/SEIRiP.pdf>
- [14]<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.301.4396&rep=rep1&type=pdf>