7th Health Marketing International Day Conference at ISTEC-Paris on 29th June 2022

Atelier / workshop 4: Marketing Social Operational

Field research work made on SERP and Healthcare

Probability scaling of Search Purposes behind Health Search Terms searched on Web/Search Engines by French Searchers

Research work and presentation by

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Research Index

Research Keywords

Health marketing on search engine, online health behaviour, health education, medical search engine, google tendances catégories de soins de santé, predictive probability scale, variants of recognizing the intention of a user behind a health search query issued on a search engine, ymyl seo, ymyl content, search query intent classification, search engine listing and healthcare, serp search healthcare, online health search pattern in france

Research Problematics

1. **Problem 1 - Least or no access to online user behaviour data in public:** There is almost no or least access of online user behaviour data to marketers, researchers, healthcare policy makers outside Google and Bing; even users doesn't know except theirs only information through https://myactivity.google.com/ and they also don't know how their information is treated except that their data is protected through GDPR policy.
2. **Problem 2 – What satisfaction users get in return:** In return from Web Searches such as SERPs or other directory and general website searches and surfing; and up to what extent it satisfies their need(s).
3. **Problem 3 - Mess-up of Search Algorithm vs. User query vs. SERP relevancy:** A bit kind of messed-up problem about the understanding of the search algorithms versus users query typing versus the results being served by the Search Engines/web directories.
4. **Problem 4 - Healthcare sites not much SEO friendly:** In terms of providing therapeutic education, preventions, access to relevant care structures, local practitioners, health pathways, compliances as a real peripheral health actor.
5. **Problem 5 - Lack of coherency in health vocabulary and SERP understanding**
6. **Problem 6 – Low motivation behind Health SEA/SEM/PPC:** Health actors and marketers are not much excited about SEA/PPC Ads as such in comparison of their counterparts in other fields.
7. **Problem 7 - Low video and image content online:** Along with less display of SERP Features such as Knowledge Graphs as frequent as other sectors.
8. **Problem 8 – Least clarity on** health user search intents: On pattern of 4 standard search intents known till date i.e. Transactional, Commercial, Informational and Navigational.
9. **Problem 9 - Online health purposes:** Health Infra, Knowledge, Problems and Solutions.
10. **Problem 10 - Frequency of redefining of the query by users:** How often the users redefine the query more often based on the information obtained on SERP-1.
11. **Problem 11 - Surge rate in visio healthcare prescriptions:** A quickly increased in use trend emerged hugely especially during the Corona period is driving the commercialization of the healthcare.

Research Hypotheses

1. **Hypothesis 1:** Healthcare online searchers from general public run to search for healthcare issues majorly when they have problems except the health specialists in terms of doctors and researchers. It means that they are least interested in self-education on health except it rushes on them.

2. **Hypothesis 2:** Health marketers are hesitant in furnishing the health solutions more than just spreading the general information more; which is not convincing the users up to much of their satisfaction.

3. **Hypothesis 3:** People are still realising the traditional channels of health treatment more than online sources. Their hesitation is still a challenge for online marketers to solve; it can be due to low efforts in transforming people attitude and approaches towards online sources.

4. **Hypothesis 4:** Research orientation is given more focus, which is creating problem for understanding their language by Lehman. People need simple words language to get reliable solution to their problems.

5. **Hypothesis 5:** General public is becoming sicker on small and general diseases, which is raising psychic concerns about their view of health and life. It is felt that the digitalization is putting them in more than required thinking mode.

Three Research Concentrations

SERP/Web Sarch + Healthcare + France

Literature Review: SERP/Web Search + Health + France

1. *Geeksforgeeks* [18 Aug, 2021] - Introduction of W3Catalog, Aliweb, JumpStation and WWW Worm in 1993
2. *StatCounter GlobalStats* [2022] - The most popular worldwide Search Engines: Google (92.01%, Bing (2.96%), Yahoo! (1.51%), Baidu (1.06%) and DuckDuckGo (0.68%).
3. Search Engines/Wikipedia - Till date a total of 80 web search engines are invented out of which 44 are active {Appendix-2}.
4. In 2015, Google released its Search Quality Evaluator Guidelines which had three thumb-rules about how Google evaluate web pages and how it differentiates between high-quality and low quality of pages which were Beneficial Purpose, EAT, and YMYL i.e. Your money or your life.
5. Studies show that behaviours from virtual worlds can translate to the real world {ref-7}.
6. *J Med Internet Res* [2009] - The Internet has made measurable what was previously immeasurable: The distribution of health information in a population, tracking (in real time) health information trends over time, and identifying gaps between information supply and demand. And that is why the YMYL category by Google put ultra-attention on quality and relevance of health topics as they impact human life directly.
7. 7 search purposes as patient education, increasing their awareness about health issues, health support, health training, health marketing, conducting research and to recruit participants for real-life research,{ref-7}.
8. 13 such Search Engines dedicated to health topics: Mocavo.com, Bing Health, Bioinformatic Harvester, CiteAb, EB-eye, PubMed, GenieKnows, Healia, Healthline, Nextbio, PubGene, Searchmedica, WebMD {ref-19}.
9. *Pauline Ducrot, Ilaria Montagni, Viet Nguyen Thanh, Anne-Juliette Serry, Jean-Baptiste Richar* [2014-17] - Ater a rapid growth in the internet use for seeking health information in France in the 2010 to 2014 period, a decrease was recorded in 2017, in parallel with a decrease in trust in the quality and reliability of information found online
10. *Trustarmarketing.com* [2019] the more we, as health care marketers and SEOers, understand search or query intent then we can bridge the gap between content and higher rankings in search SEO provides critical support to search engines in terms of setting algorithms on the basis of user and marketer intent which till date revolves around four major axis of Information,
11. *Ethan Lyon* [Apr 2017] writes that “today, when first looking for healthcare information online, a user searches for definitions and background on a disease, treatment or virus.

Research Methodology

1. **Research Question:** To study the probability of various search terms of health topics in French market on a predictive scale is first objective of this research.
2. **Research Methods:** Qualitative and Quantiative Research, Pearson Correlation Model, NPAR variable, Predictive Probability Scalability - Usage Frequency Study
3. **Four purpose of Health Search:** These intent categories form the base for recognition of intent triggers. We designed a 5 scale rating parameter to gaze the probable intent of a searcher - Always, Quite Often, Sometimes, Rarely, Never.
4. **Google Trends Data Study:** Collection of the most trending health search terms enlisted on **Google Trend** in the French market: **117 different types of Health related search topics**. We categorized these **Health Search Terms into 4 categories and 18 sub-categories** as below:

Purpose Category	Purpose Sub-Category
Health Infra	Establishments, Equipments, Doctors, Services
Health Knowledge	Education, Information, Laws, News, Articles, Research
Health Problem Sources	Diseases, Causes, Symptoms
Health Solutions	Prevention, Diagnosis, Supplements, Drugs, Treatments

5. **Google Ads Keyword Planner and SEMrush Data Study:** As per our findings French people search 117 Health Search Topics in more than **33754** ways.
6. **Surveyed Audience:** We wanted to test these findings with one more another reference i.e. Public survey before justifying our hypotheses so we launched a survey among the students and staff of Lille University.

Survey Data Results Analysis

4 anonym demographic information of the respondents were collected by abiding by GDPR policy:

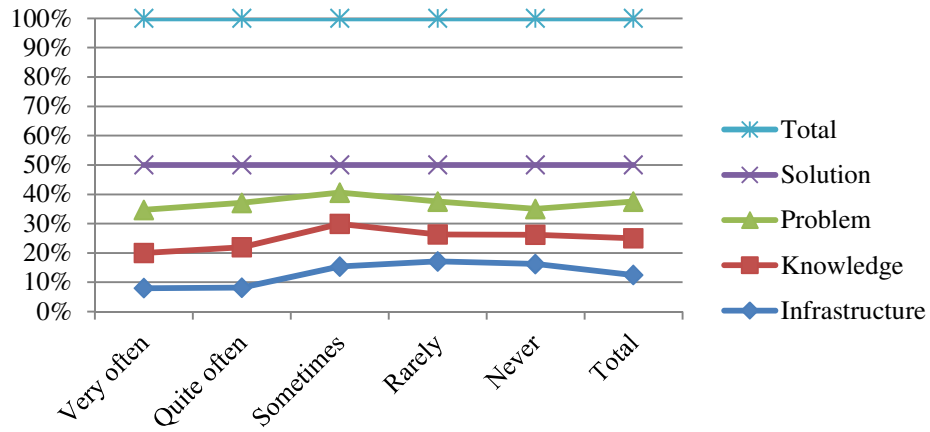
Demographics of our surveyed audience								
Sr.	Code Postal	No.	Gender	No.	Age Range	No.	Profession	No.
1	59	89	Female	66	16 to 25 years	70	Student	85
2	62	11	Male	40	26 to 40 years	24	Executive and higher intellectual profession	12
3	Others	6			41 to 50 years	2	Employee	7
4					51 to 60 years	5	Unemployed	1
5					61 to 75 years	5	Craftsman, merchant and entrepreneur	1
6					Over 76 years	0	Farmer	0
7							Intermediate occupation	0
8							Worker	0
9							Retired	0
	Total	106		106		106		106

Survey Data Results Analysis

Findings Axis 2: Probability Scale of Users Searches on Search Engine/Web for Health Topics

Probability Scale of Users Searches on Search Engine/Web for Health Topics						
Category Keyword	Very often	Quite often	Sometimes	Rarely	Never	Total
Infrastructure	12	19	36	26	13	106
Knowledge	18	32	34	14	8	106
Problem	22	35	25	17	7	106
Solution	23	30	22	19	12	106
Total	75	116	117	76	40	424
%age	18.4	26.7	27.7	17.4	9.8	

Discussion: Young people are rushing to web for Problems and Solution more often than for Infrastructure and Knowledge gaining. - 1st Hypothesis - east interested in self-education on health except it rushes on them.

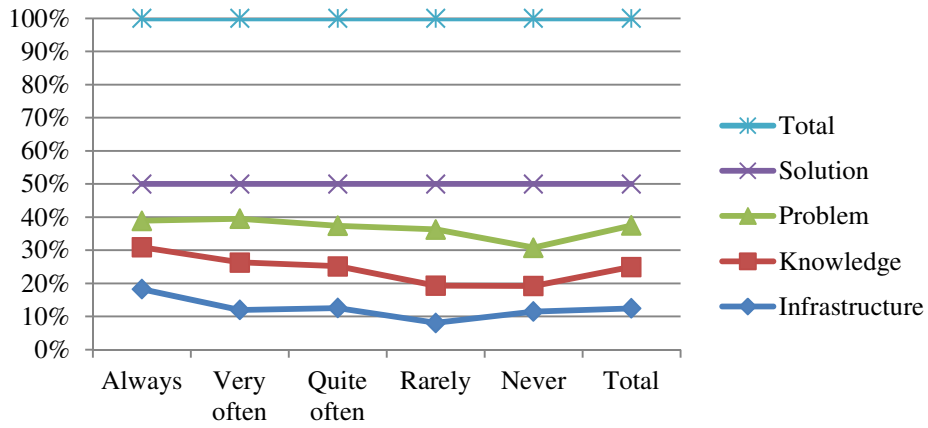


Survey Data Results Analysis

Findings Axis 1: Satisfaction Scale of Users Searches on Search Engine/Web for Health Topics

Satisfaction Scale of Users Searches on Search Engine/Web for Health Topics						
Category Keyword	Always	Very often	Quite often	Rarely	Never	Total
Infrastructure	23	31	33	10	9	106
Knowledge	16	37	33	14	6	106
Problem	10	34	32	21	9	106
Solution	14	27	33	17	15	106
Total	63	129	131	62	39	424
%age	14.5	30.6	30.4	15.0	9.6	

Discussion: People are less satisfied with the searches for health problems followed by the solutions. For topics of Health infrastructures and knowledge and Infrastructure they get better results. - Hypothesis 2 - marketers are hesitant in furnishing the health solutions

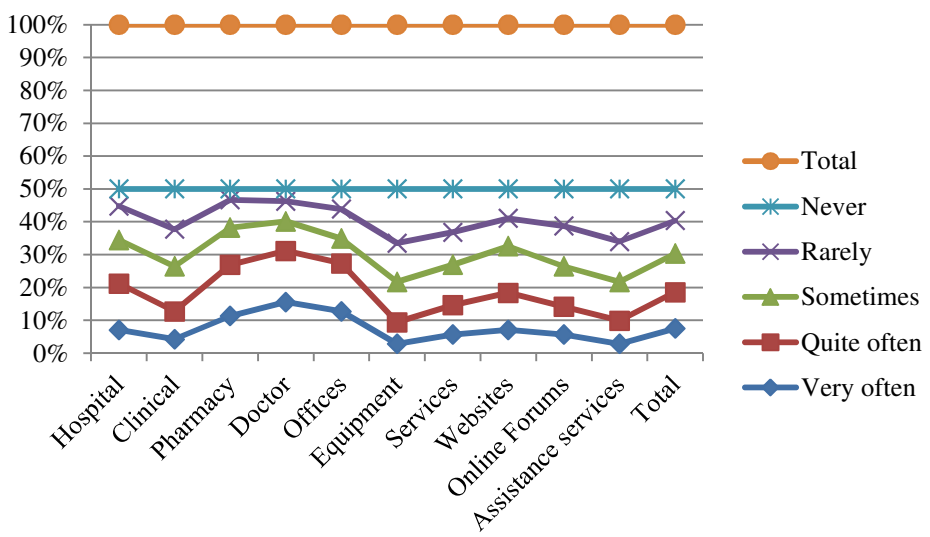


Survey Data Results Analysis

Findings Axis 3: Probability Scale of Users Searches on Search Engine/Web for Health Infra Topics

Probability Scale of Users Searches on Search Engine/Web for Health Infra Topics						
Category Keyword	Very often	Quite often	Sometimes	Rarely	Never	Total
Hospital	15	30	28	22	11	106
Clinical	9	18	29	24	26	106
Pharmacy	24	33	24	18	7	106
Doctor	33	33	19	13	8	106
Offices	27	31	16	19	13	106
Equipment	6	14	26	25	35	106
Services	12	19	26	21	28	106
Websites	15	24	30	18	19	106
Online Forums	12	18	26	26	24	106
Assistance services	6	15	25	26	34	106
Total	159	235	249	212	205	1060
%age	15.5	22.8	22.7	18.8	20.1	

Discussion: Trends found still favouring the traditional infra points like doctor, pharmacy, medical cabinets more than consulting via websites and online forums. It can be the problem between algorithms of SEARCH Engines and queries queried that somehow the Search Engines are meeting the expectations of the searchers. – Hypothesis 3 - low efforts in transforming people attitude and approaches towards online sources.

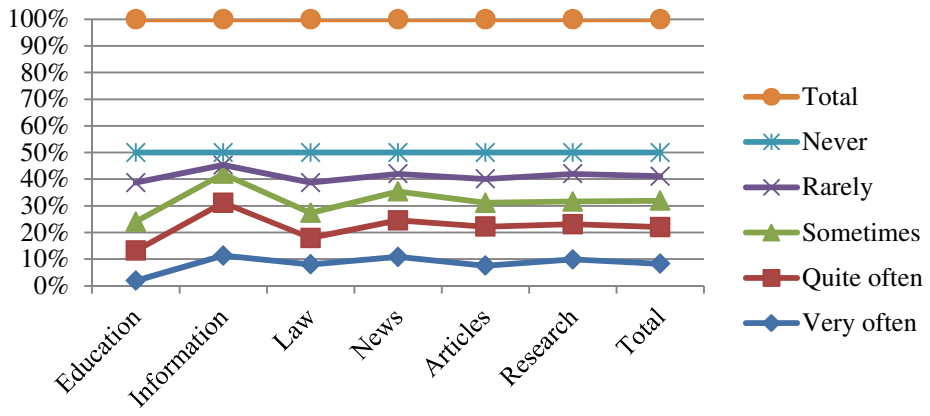


Survey Data Results Analysis

Findings Axis 4: Probability Scale of Users Searches on Search Engine/Web for Health Knowledge Topics

Probability Scale of Users Searches on Search Engine/Web for Health Knowledge Topics						
Category Keyword	Very often	Quite often	Sometimes	Rarely	Never	Total
Education	4	24	23	31	24	106
Information	24	42	23	7	10	106
Law	17	21	20	24	24	106
News	23	29	23	14	17	106
Articles	16	31	19	19	21	106
Research	21	28	18	22	17	106
Total	105	175	126	117	113	636
%age	17.0	27.6	19.6	17.3	18.5	

Discussion: Respondents responded in a way that they don't look for Education as such but as information more. It can be due to the reason that people are least bothered about healthcare education and just survive on information only. It indicates a lack of awareness about being educated on health aspects and also be attributed to uncommon and bit technical language of healthcare sector. Simplifying it for public could get to a solution. – Hypothesis 4 - problem for understanding their language

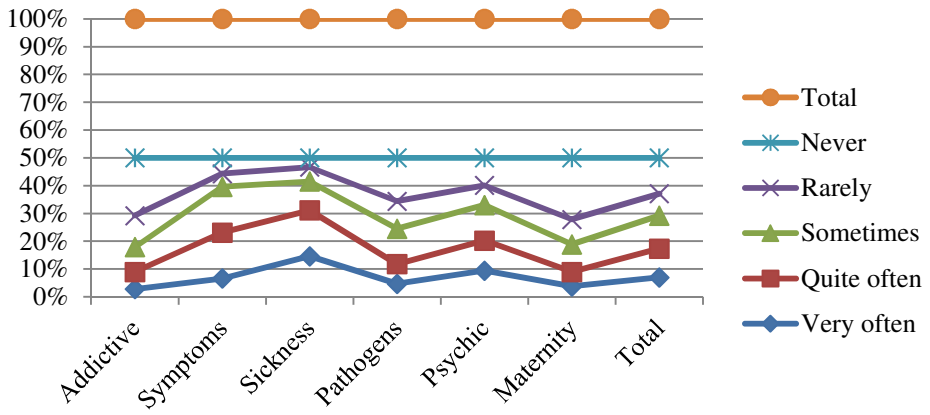


Survey Data Results Analysis

Findings Axis 5: Probability Scale of Users Searches on Search Engines/Web for Health Problem Topics

Probability Scale of Users Searches on Search Engine/Web for Health ProblemsTopics						
Category Keyword	Very often	Quite often	Sometimes	Rarely	Never	Total
Addictive	6	13	19	24	44	106
Symptoms	14	35	35	10	12	106
Sickness	31	35	22	11	7	106
Pathogens	10	15	27	21	33	106
Psychic	20	23	27	15	21	106
Maternity	8	11	21	19	47	106
Total	89	132	151	100	164	636
%age	14.5	21.1	23.5	14.7	26.1	

Discussion: People are more turning towards Sickness and Psychic behavioural problems as per the indication in the results in red above. Hypothesis 5 - digitalization is putting them in more than required thinking mode.

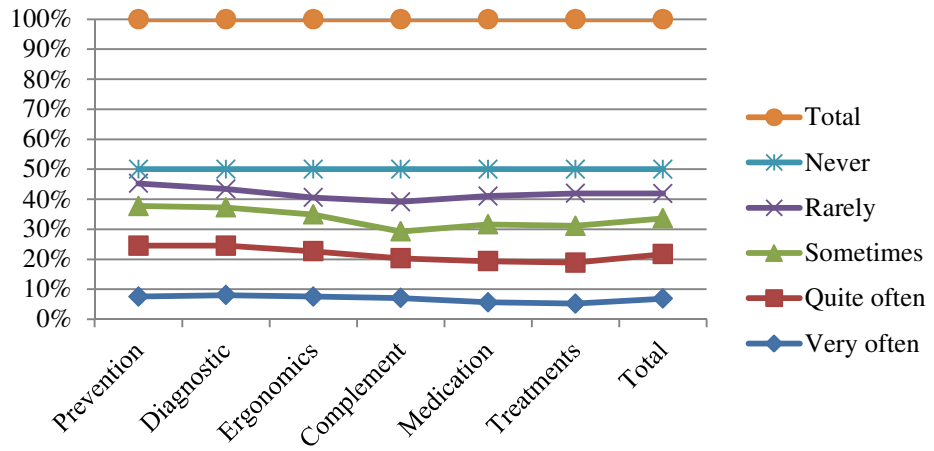


Survey Data Results Analysis

Findings Axis 6: Probability Scale of Users Searches on Search Engines/Web for Health Solutions Topics

Probability Scale of Users Searches on Search Engine/Web for Health Solutions Topics						
Category Keyword	Very often	Quite often	Sometimes	Rarely	Never	Total
Prevention	16	36	28	16	10	106
Diagnostic	17	35	27	13	14	106
Ergonomics	16	32	26	12	20	106
Complement	15	28	19	21	23	106
Medication	12	29	26	20	19	106
Treatments	11	29	26	23	17	106
Total	87	189	152	105	103	636
%age	13.9	29.6	22.9	16.8	16.8	

Discussion: People seem bit more aware in younger sect that they chose for seemingly frequent prevention and diagnosis. However the ergonomics i.e. preventive care of physic and mind is bit lucrative.



Pearson correlation coefficient was found negative for old age groups

Sr.	Research Axis	Correlation Coefficient	Sig. (bilatéral)
1	Que recherchez-vous sur les sujets d'infrastructures de santé sur Internet, échelle de probabilité ci-dessous? [Pharmacie]	-,239*	0.016
2	Que recherchez-vous sur les sujets d'infrastructures de santé sur Internet, échelle de probabilité ci-dessous? [Forums de santé en ligne]	-,225*	0.023
3	Que recherchez-vous pour accroitre vos connaissances en santé, échelle de probabilité ci-dessous? [Actualités]	-,207*	0.037
4	Que recherchez-vous pour accroitre vos connaissances en santé, échelle de probabilité ci-dessous? [Recherche]	-,231*	0.02
5	Que recherchez-vous pour répondre à des problèmes de santé, échelle de probabilité ci-dessous? [Symptômes (saignement, grattage, douleur…etc.)]	-,338**	0.001
6	Que recherchez-vous pour répondre à des problèmes de santé, échelle de probabilité ci-dessous? [Informations sur les troubles psychiques (anxiété, dépression, etc.)]	-,294**	0.003
7	Que recherchez-vous dans vos recherches comme type de solutions aux problèmes de santé, échelle de probabilité ci-dessous? [Comportements et solutions de prévention]	-,207*	0.036
8	Que recherchez-vous dans vos recherches comme type de solutions aux problèmes de santé, échelle de probabilité ci-dessous? [Eléments de diagnostique d'une pathologie]	-0.157	0.115
9	Que recherchez-vous dans vos recherches comme type de solutions aux problèmes de santé, échelle de probabilité ci-dessous? [Solutions Ergonomiques pour les douleurs physiques (Exercices, Stretching, Relaxation, Yoga, Postures au travail etc.)]	-,213*	0.031
10	Que recherchez-vous dans vos recherches comme type de solutions aux problèmes de santé, échelle de probabilité ci-dessous? [Compléments alimentaires (nutriments, vitamines, etc.)]	-,250*	0.011

Discussion: We did the same test for cross verification of our results using **NPAR Test Method (Nonparametric)** tool. Results from both tools were in coherence.

Chi-square tests about the gender inclination in Web Search

To increase your health knowledge (education, information, laws, news, articles, research, etc.)

	Value	ddl	Asymptotic significance (two-sided)
Pearson chi-square	10,047[a]	4	,040
Likelihood ratio	10,138	4	,038
# of valid observations	106		
has. 2 cells (20.0%) have a theoretical number less than 5. The minimum theoretical number is 2.18.			

Gender	Never	Rarely	Quite often	Very Often	Always	Total
Man	33,3%	64,3%	22,6%	44,4%	20,0%	36,3%
Woman	66,7%	35,7%	77,4%	55,6%	80,0%	63,7%
Total	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%

What are you looking for to increase your health knowledge, probability scale below? [News]

	Value	ddl	Asymptotic significance (two-sided)
Pearson chi-square	12,143[a]	4	,016
Likelihood ratio	12,436	4	,014
# of valid observations	102		
has. 1 cells (10.0%) have a theoretical count less than 5. The minimum theoretical count is 4.72.			

Gender	Never	Rarely	Sometimes	Quite Often	Always	Total
Man	47,1%	46,2%	59,1%	18,5%	21,7%	36,3%
Woman	52,9%	53,8%	40,9%	81,5%	78,3%	63,7%
Total	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%

Conclusion

1. As the age increases people turn off to internet and services as found in our Pearson coefficient correlation calculations.
2. In our Chi Square test we found that women turns to internet more often than man, can be credited to their more emotional involements in maintaining the self and family.
3. Healthcare actors are supposed to act more rigorously to educate people with health content in simple language as the youth is highly turning to iternet. Special education and self-awareness programs and solutions can be introduced in education.
4. Enormous digitalization is now turning the youth a habitual of its usage in isolation and that is making them more in thinking mode, which ultimately is making them sicker and psychic.

Further Scopes and Implementations

This research forms the base of general behaviours study of the web/search engine searchers. There are huge scope of working on mapping the search intents with the health search purposes.

More focused studies on SEO, SEA likeliness can lead to solution to bringing more of people using internet for health services.

Gaps between the SERP/Web results versus User expectation versus SERP Algorithms for better AI.

Thank you for your attention!

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