Article

Impact of Search Engine Optimization as a Marketing Tool

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Abstract

Today's world revolves around information that is the driving force behind any economic value chain. The thirst for information has led to the evolution of online "Search Engines" over last few years and are the most widely used instruments currently. Gradually marketers also started using this platform for marketing their products. This study focuses on the impact of search engine optimization as a marketing tool and its influence on various marketing variables like market share, brand equity and others. Literature review highlights many marketing variables getting affected by search engine optimization. Variables like market share, brand loyalty, brand recognition, product price, product information, brand image, brand awareness, consumer online behavior, and user reviews are few of them. The authors have found that most of the researches have highlighted these variables either in isolation or may be in combination of few. Few studies have considered variables only from marketer's point of view and others from buyer's point of view. In this study, the authors have attempted to comprehend and understand empirically, the impact of search engine optimization on various marketing variables identified (after the study) as market share and brand equity as the most prominent ones and product awareness, purchase persuasion and consumer insights the other important ones.

To analyze the said phenomenon, the initial step was the examination of the significant writing to develop a comprehension about different parameters of search engine for the brand post. The data were gathered through questionnaire from the sample of 338 respondents who were selected by simple random sampling method mostly from the National Capital Region (NCR) of Delhi in India. The data collected from the respondents were loaded on SAS base for exploratory factor analysis and multiple regression analysis.

Keywords

Search engine optimization, digital marketing, online marketing, digital campaigns, marketing performance, website traffic

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Introduction

Internet connectivity is ruling the globe in current scenario, and it is virtually unfeasible to find anything on the web without utilizing a search engine. But the question is what this search engine is? A search engine is complex software which may be compared to be a finder visiting to the various websites and their pages which help the searcher to find significant data (Levene, 2010). Search engine optimization (SEO) can be defined as a mechanism which allows the searcher to get most appropriate results of his online search. SEO also helps marketers by displaying their respective ads to the right people in the right place and right time. Marketers can advance the rankings of their advertisement on the search-results pages by improving their quality score in order make them more significant and therefore more search-engine compatible (Sen, 2005).

Search engines can be classified into three sorts:

- *Crawler-based search engines:* Crawler or Spider programs create databases by methods for web robots. These robots are programs that dwell on a host system and recover data from destinations on the web utilizing standard conventions. Basically, they naturally venture to every part of the Web taking after connections from records and gathering data as indicated by the HTML structure of the record (Thelwall, 2015).
- *Human-powered directories:* Human-powered directories additionally alluded as "open index system" relies upon human-based exercises for postings. Site proprietor presents a short portrayal of the site to the registry alongside category it is to be recorded. Submitted site is then physically looked into and included the suitable class or rejected for posting. Keywords entered in the search box will be coordinated with the portrayal of the locales. A decent site with great substance will probably be assessed for nothing contrasted with a site with poor substance (Burghardt, Heckner, & Wolff, 2012).
- *Hybrid search tools:* Hybrid search engines utilize both crawler-based and manual ordering for postings the locales in list results. A large portion of the crawler-based web indexes like Google fundamentally utilizes crawlers as an essential component and manual screening as an auxiliary instrument. At the point when a site is being distinguished for spam exercises, manual survey is required before incorporating it again in the query items (Ahlers, 2012).

Attributable to the massive amount of data on the Web, ideal from the beginning of the Web, web crawlers have turned into an irreplaceable instrument for web clients. The underlying foundations of search engine innovation are in data recovery systems, which can be followed back to the work at IBM amid the late 1950s. Data recovery has been a dynamic field inside data science from then and has been given a major lift since the 1990s with the new prerequisites that the Internet had brought (Oppenheim, Morris, McKnight, & Lowley, 2000). One of the issues related with the assessment of web search tools is the reality that they are always showing signs of change, and building up their search instruments and user interface. Also, consistently observes the innovation of new web search tools. Joining these truths with the always showing signs of change substance of the web, it is clear that no particular assessment of an Internet search engines is probably going to stay legitimate for any period of time. Subsequently, most researchers stress that the results of the search engines are just demonstrative of the execution of those web crawlers around at that time only (Kammerer & Gerjets, 2012).

Process of Surfing on Search Engine

For the search engine methodology, a client looking for data on the Internet will ordinarily repeat through the accompanying steps:

1. *Question detailing*: The client presents an inquiry to the search engine indicating his or her objective; ordinarily a question comprises at least one info keywords.
2. *Determination*: The client chooses one of the site pages from the positioned comes about rundown returned by the web index, taps on the link to that page, and peruses the page once it is stacked into the server.
3. *Surfing*: The client starts a surfing session, which is the way toward tapping on links and perusing the pages showed. The client surfing the Web by taking after connections will utilize different signals and devices to expand his or her navigational movement.
4. *Inquiry adjustment*: The surfing session might be hindered for the reason of inquiry adjustment, when the client chooses to reformulate the first question and resubmit it to the web crawler. For this situation, the client returns to step one (Schwartz, 1998).

Search Engine Design

The design of a search engine can be seen in Figure 1.

Usually when a client enters a search query into a web crawler, it is a couple keywords. The web index has the names of the destinations containing the keywords, and these are in a flash acquired from the file. The genuine preparing load is in producing the site pages that are the search items list. Every page in the whole rundown must be weighted by data in the web indexes. Then the top search query output requires the lookup, reproduction, and markup of the scraps demonstrating the setting of the keywords
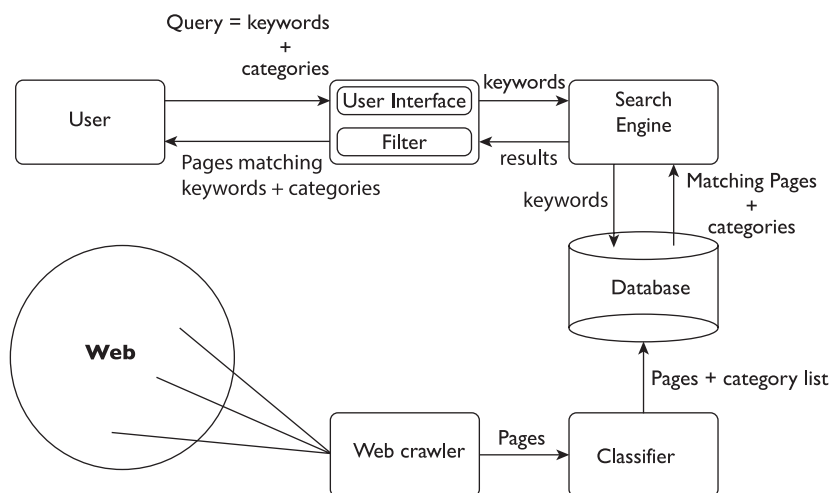

Figure 1. Architectural Design of Search Engine

Source: Chekuri, Goldwasser, Raghavan, and Upfal (1997).

coordinated. These are just piece of the preparing each indexed lists page requires, and additionally pages (alongside the top) require a greater amount of this post handling (Harter & Hert, 1997).

Search Engines and Marketing in the Contemporary Scenario

Google has turned search engine into the essential device used to find data on the web. A few reviews on client behavior showed that most clients click on sites recorded on the first page of results and the extent of clients that view sites recorded beyond the third page of results declines quickly. Accordingly, accomplishing a high positioning in web index results is pivotal to pulling in traffic to a site and speaks to the central purpose of search engine advertising endeavors (Luh, Yang, & Huang, 2016).

SEO assist to improve the positioning of a site for the query results for given keywords. SEO system incorporates two main procedures: Off-page optimization and On-page optimization. Off-page optimization involves creating back connections on other authenticated websites and subsequently boosting domain-level and page-level authentication. For On-page optimization, SEO creates the advancement of website pages utilizing target keywords in the title, snippets and in the URL. The inclusion of extra terms, semantically identified with the objective keywords, is viewed as a progressed SEO strategy (Moreno & Martinez, 2013).

Objectives of the Study

- To understand the impact of SEO on the marketing performance of the brand.
- To compare SEO as an advertising tool with other traditional marketing tools.
- To identify the implications on the customer's perception about SEO as a marketing tool.

Review of Literature

Various researchers have illustrated about the SEO and its importance in our daily life. Search engine marketing is the quickest developing promoting medium on the planet, anticipated to progress toward becoming many times more intense and powerful than customary media outlet. Search engines are the essential search tools utilized for data recovery on the Web. It has been assessed that most of Web clients utilize search engines to acquire data from the Web. This highlights the fundamental significance of website pages being recorded with web search tools. An essential system for any site proprietor is arranging how guests can discover their way to their specific website (Berman & Katona, 2013). The search engine acts as a mediator amongst shoppers and sites. It will likely furnish shoppers with links to the most noteworthy quality sites on the organic side. To rank sites, the web search tool scores every site on its assessed quality utilizing data assembled from the Internet utilizing crawling calculations and information mining strategies. The users while utilizing a search engine are affected by the search engine marketing decisions made by site proprietors and by the mechanism of the search engine. Site proprietors can decide to put resources into SEO push to advance their site in organic postings and also offer for sponsored connections (Lovatt & Legge, 2014). SEO matters in light of the fact that without it a site or the webpage will show up lower in the search results it conceivably could what's more, therefore will get less visits (Xu, Chen, & Whinston, 2012).

Marketers utilize SEO to build the position of their postings in the organic indexed search results which are created by the search engine's restrictive ranking calculations. The positioning depicts the importance

of the match between the searcher's search inquiry and the sites in the web crawler's file. With SEO, marketers attempt to improve their websites so they are seen as more significant by the rank in order to gain better market share (Sen, 2005). SEO is favorable for marketers because they do not have to spend for web traffic from organic ads. Another significant aspect about SEO is it provides continuous and real-time insights about the online behavior of the consumer. Thus, SEO is a need to be performed on an ongoing basis. Comparing SEO with the traditional methods of marketing, the analysis of results and prediction of consumer behavior usually take months to manifest, on the contrary, SEO provides real-time analysis of consumer online behavior. SEO offers markets a more knowledgeable medium to emerge for required search queries at high ranks on the search engines (Yang & Ghose, 2010). The cost of a webpage facilitating services is diminishing; this approach would undoubtedly turn online marketing to be less expensive. In such a situation, there would be expanding number of on-line venders providing SEO services. All the leading search engines constructed a logical model that makes it conceivable for the marketers to compare search engine marketing strategies in terms of their impact on the profitability of on-line marketers (Taylor, 2013). On-line purchasers utilize search engines to scan for and price information. In the process of finishing the search process, the purchaser structures a thought set that comprises the dealers whose websites were visited during the search. Site URLs in print ads, marketers, draw the attention of the target audience to their Web destinations search engines have turned into a starting point for information searches and a navigational aid to finding pages on the Internet. The SEO is for the most part considered to either be a substitute for or a supplement to traditional media (Chen & He, 2011). Search engines rank search query results based on wide range of algorithmic and quality factors. Anyone can get you more traffic, however, would they be able to get you traffic focused to your business keywords that creates quality changing over leads. At the point when done appropriately by experts, SEO can get an enormous advantage of site improvement is round the clock marketing. A very much enhanced site will rank throughout the day consistently (Lorigo et al., 2006). Marketer can reduce server stress and load times, which lead to speedier pages, happier search engine spiders, and retained visitors by validating code and optimizing files. The best favorable position of SEO administrations is sales! The website is effortlessly accessible to the huge part of the online clients. A superior streamlined and outlined site magnetizes lot of searchers (Smith, 2010). The act of SEO can altogether build a better website ranking, driving more traffic movement to the site, and subsequently expanding revenue (Zhang & Cabage, 2016). SEO is an essential apparatus to expand a webpage's visibility for marketers who can bear to pay more. The larger part of online sponsors put resources into both SEO also, sponsored search engine marketing and faces a vital problem in the matter of how to dispense their financial plan between the two exercises (Roy, Datta, & Basu, 2016). SEO will be around as long as search engines are around and search engines will be around as long as individuals search for data (Dover, 2011).

Research Design

"Web search tool" is a developing marvel, so an exploratory research was conducted for comprehension of different viewpoints. The researcher inspected the diverse publicizing elements of the search engines that affect the gathering of the users toward the substance of the page on the different web search tools. Causal research configuration actualized to comprehend the effect of web crawler on the segments of publicizing recognized under writing survey. The framework had been incited to detail a subjective system for overhauled understanding for this complex and dynamic phenomenon. To break down this subject, the underlying stride was the examination of the noteworthy composition to build up an understanding about various parameters of search engine for the pay per click marketing strategy. A sorted out

poll was readied which was ordered into two segments, the first section enquires about the demographic statistic and web crawler profiles of the respondents and the second section measures the respondents on the premise of parameters distinguished through literature audit. A 5-point Likert scale was intended to quantify the recognized parameters extending from explicitly agree (=5) to explicitly disagree (=1) for the distinguished factors. The information was accumulated through survey from 338 respondents which were chosen by basic arbitrary examining strategy for the most part from the National Capital Region (NCR) of Delhi in India. The information gathered from the respondents was stacked on SAS base for advance statistical investigation.

Research Process

The investigation took after a successive procedure, moving through three noteworthy stages where each stage took after particular strategies that are recorded as take after:

1. Identification of all the conceivable factors which sets up pay per click as a promoting instrument through literature audit.
2. Combining the factors into important number of elements by means of exploratory factor analysis.
3. Study the connection between the factors for theoretical testing by means of multiple regression.

Data Analysis and Interpretation

Descriptive statistics conducted on the demographic and search engine profile of the respondents, the result presented in Tables 1 and 2.

Table 3 explains the univariate analysis of the identified variables which were employed for exploratory factor analysis. The variables with high mean values, that is, user reviews (mean = 3.39), consumer dissonance (mean = 3.21), and brand loyalty (mean = 2.91) brand commitment (mean = 2.90) are considered to be most impactful variables for the emergence of SEO as a marketing tool.

Table 4 describes Kaiser's measure of sampling adequacy: Overall MSA is 0.824 which is considered to be an acceptable value; this indicates that the data collected would be suitable for factor analysis. Principal component analysis was employed to measure the degree of variability in the variables. The degree of variability calculated from the initial value (=1), variables with extraction value more than 0.5 would be considered acceptable for factor analysis.

Table 1. Demographic Profile of the Respondents (*N* = 338)

Age	Frequency	Gender	Frequency	Education	Frequency
15–20	74	**Male**	196	**Undergraduate**	83
20–25	146	**Female**	142	**Graduate**	164
25–30	47			**Postgraduate**	85
30–35	42			**Doctorate**	6
35–40	29				

Source: Author's compilation.

Table 2. Search Engine Profile of the Respondents (*N* = 338)

Search Engine Used	Frequency	Time on Social Media (Minutes)	Frequency	Activities on Social Media	Frequency
Google	210	**0–30**	121	**Updates**	162
Bing	83	**30–60**	37	**Purchase**	87
Yahoo	29	**60–90**	40	**Comparison**	23
AOL	10	**90–120**	95	**Information**	66
Ask	6	**<120**	45		

Source: Author's compilation.

Table 3. Descriptive Statistics of Identified Variables

Variables	Mean	SD	Max.	Min.	Skewness	Kurtosis
Market share	2.7685460	1.5621515	5	1	0.5163976	−1.4059114
Brand commitment	2.8902077	1.5725867	5	1	0.4319878	−1.5341848
Brand loyalty	2.9080119	1.6239909	5	1	0.3004480	−1.6286583
Brand recognition	2.1008902	1.3212658	5	1	1.2773849	0.3740315
Product price	2.3086053	1.5137318	5	1	1.0041360	−0.5808235
Product information	2.1513353	1.3510158	5	1	1.2668193	0.2915188
Brand image	2.3560831	1.4197481	5	1	1.0098814	−0.4315693
Information searched	2.8872404	1.0346887	5	1	1.0545506	−0.0544143
Consumer dissonance	3.2077151	0.5811010	5	1	2.5980581	5.0645592
Brand awareness	2.6023739	1.5340560	5	1	0.6638017	−1.1742650
Search engine analytics	2.1869436	1.3857508	5	1	1.2139107	0.0906895
Consumer online behavior	1.9080119	1.1854128	5	1	1.6455954	1.8276837
User reviews	3.3857567	1.2414609	5	1	−0.0416839	−1.6707497
Feedback mechanism	2.6617211	1.5014241	5	1	0.5641120	−1.2559521
Scarcity of products	2.8189911	1.2978444	5	1	0.9974832	−0.9416926

Source: Author's compilation.

Table 4. Kaiser's Measure of Sampling Adequacy: Overall MSA = 0.82392075

Final Communality Estimates: Total = 10.739775

Market share	Brand commitment	Brand loyalty	Brand recognition	Product price	Product information	Brand image	Information searched
0.7023*	**0.7704***	**0.6492***	**0.7959***	**0.7098***	**0.6268***	**0.6587***	**0.7383***
Consumer dissonance	Brand awareness	Search engine analysis	Consumer online behavior	User reviews	Feedback mechanism	Scarcity of products	
0.7054*	**0.5853***	**0.6854***	**0.8279***	**0.8407***	**0.6571***	**0.7859***	

Source: Author's compilation.
Notes: Initial value = 1.
   *= Extraction value
   Extraction method = Principal Component analysis.

Table 5 illustrates correlation between the each identified variables, the coefficient of correlation ranges between –1 and 1, and coefficient of correlation greater than 0.5 is considered as an acceptable correlation between the variables.

Table 6 illustrates Eigenvalue and cumulative proportion of the identified variables, these parameters assisted researcher to identify the number of factors. Eigenvalue close to 1 with cumulative proportion more than 70 percent would be considered as an acceptable, all these parameters satisfied incase number of factors equal to 5. Therefore, researcher accepted 5 factors.

Table 7 illustrates the factor loadings of each identified variables, extraction method employed was principal component matrix. Rotation method employed for factor analysis is varimax with KMO normalization.

Table 8 illustrates the profiling of the variables on the basis of rotated factor loadings. Each factor had been profiled on the basis of the characteristics of the variables in the respective factor. Further to analyze, the impact of SEO as a marketing tool on the factors was tested.

Table 5. Correlation Matrix

	X1*	X2*	X3*	X4*	X5*	X6*	X7*	X8*	X9*	X10*	X11*	X12*	X13*	X14*	X15*
X1*	1.00	0.31	0.27	0.19	0.18	0.11	0.27	0.34	0.25	0.19	0.33	0.12	0.15	0.05	–0.2
X2*	0.31	1.00	0.59	0.13	0.33	0.36	0.45	0.25	0.29	0.29	0.25	0.17	0.08	0.22	0.07
X3*	0.27	0.59	1.00	0.34	0.39	0.27	0.50	0.25	0.33	0.30	0.35	0.25	0.14	0.28	0.21
X4*	0.19	0.13	0.34	1.00	0.48	0.41	0.38	0.15	0.33	0.24	0.42	0.36	0.16	0.22	0.22
X5*	0.18	0.33	0.39	0.48	1.00	0.59	0.51	0.33	0.58	0.52	0.45	0.46	0.32	0.42	0.49
X6*	0.11	0.36	0.27	0.41	0.59	1.00	0.48	0.21	0.45	0.35	0.26	0.44	0.21	0.31	0.33
X7*	0.27	0.45	0.50	0.38	0.51	0.48	1.00	0.30	0.51	0.55	0.47	0.43	0.16	0.41	0.39
X8*	0.34	0.25	0.25	0.15	0.33	0.21	0.30	1.00	0.61	0.33	0.50	0.55	0.36	0.33	0.37
X9*	0.25	0.29	0.33	0.33	0.58	0.45	0.51	0.61	1.00	0.42	0.58	0.69	0.35	0.42	0.51
X10*	0.19	0.29	0.30	0.24	0.52	0.35	0.55	0.33	0.42	1.00	0.43	0.43	0.23	0.35	0.55
X11*	0.33	0.25	0.35	0.42	0.45	0.26	0.4 7	0.50	0.58	0.43	1.00	0.64	0.41	0.44	0.49
X12*	0.12	0.17	0.25	0.36	0.46	0.44	0.43	0.55	0.69	0.43	0.64	1.00	0.21	0.53	0.41
X13*	0.15	0.08	0.14	0.16	0.32	0.21	0.16	0.36	0.35	0.23	0.41	0.21	1.00	0.13	0.41
X14*	0.05	0.22	0.28	0.22	0.42	0.31	0.41	0.33	0.42	0.35	0.44	0.53	0.13	1.00	0.52
X15*	–0.2	0.07	0.21	0.22	0.49	0.33	0.39	0.37	0.51	0.55	0.49	0.41	0.41	0.52	1.00

Source: Author's compilation.
Notes: **X1* =** Budget   **X9*** = Language
          X2* = Pure competition   **X10*** = Monopoly
          X3* = Monopolistic competition   **X11*** = Keywords
          X4* = Mass marketing   **X12*** = Landing page experience
          X5* = Segment marketing   **X13* =** Socio–cultural factors
          X6* = Niche marketing   **X14*** = Ad relevance
          X7* = Oligopoly   **X15* =** Demographic factors
          X8* = Quality score

Table 6. Eigenvalues of the Correlation Matrix: Total = 15, Average = 1

	Eigenvalue	Difference	Proportion	Cumulative
1	6.04524829	4.48979919	0.4030	0.4030
2	1.55544911	0.30163026	0.1037	0.5067
3	1.25381885	0.28621895	0.0836	0.5903
4	0.96759989	0.04994096	0.0645	0.6548
5	0.91765894	0.16421682	0.0612	0.7160
6	0.75344212	0.04658965	0.0502	0.7662
7	0.70685247	0.15997395	0.0471	0.8133
8	0.54687851	0.08664921	0.0365	0.8498
9	0.46022931	0.05922654	0.0307	0.8805
10	0.40100277	0.03591832	0.0267	0.9072
11	0.36508445	0.04482879	0.0243	0.9316
12	0.32025566	0.01310862	0.0214	0.9529
13	0.30714704	0.05684904	0.0205	0.9734
14	0.25029800	0.10126341	0.0167	0.9901
15	0.14903459		0.0099	1.0000

Source: Author's compilation.

Table 7. Rotated Factor Pattern

Variables	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Consumer online behavior	0.84940				
Information searched	0.70352				
Consumer dissonance	0.70094				
Feedback mechanism	0.68786				
Search engine analytics	0.65815				
Brand commitment		0.85183			
Brand loyalty		0.74462			
Brand image		0.63020			
Brand awareness		0.46532			
Brand recognition			0.85794		
Product information			0.65922		
Product price			0.59063		
User reviews				0.87852	
Scarcity of products				0.59117	
Market share					0.76254

Source: Author's compilation.

Table 8. Profiling of Factors

Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Consumer online behavior	Brand commitment	Brand recognition	User reviews	Market share
Information searched	Brand loyalty	Product information	Scarcity of products	
Consumer dissonance	Brand image	Product price		
Feedback mechanism	Brand awareness			
Search engine analytics				
Consumer insights	**Brand equity**	**Product awareness**	**Purchase persuasion**	**Market share**

Source: Author's compilation.

Hypothesis

The motivation behind this exploration is to research the advantageous impact of the SEO on the viewer's response. With knowledge of the past writings and results of factor analysis the advantages of the SEO had been arranged into five fundamental measurements:

- *H1: Greater the level of search engine optimization, the better consumer insights available to the marketer.*
- *H2: Greater the level of search engine optimization, the better brand equity available to the marketer.*
- *H3: Greater the level of search engine optimization, the better product awareness provided to the consumer.*
- *H4: Greater the level of search engine optimization, the better purchase persuasion created by the marketer for the user.*
- *H5: Greater the level of search engine optimization, the better market share available to the marketer.*

Hypothesis Testing

The hypothesized relationships were tested using multiple regression analysis. First of all a correlations matrix was produced to comprehend the relationships between reviewed variables. Considering the correlation matrix, consumer online behavior and consumer dissonance (0.691020), brand commitment and brand loyalty (0.593567), and feedback mechanism and scarcity of the products (0.527474) indicated high degree of correlation. A 5-point Likert scale was designed (where 1 = Strongly disagree to the statement and 5 = Strongly agree to the statement) to record responses of the respondents for mentioned key variables then the whole gathered information was coded to SAS base version for
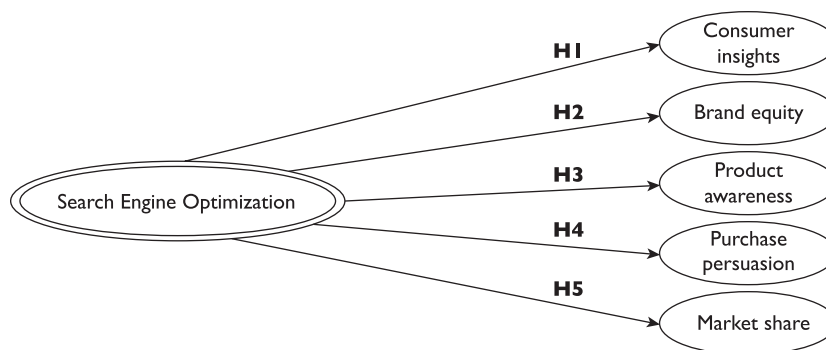
Figure 2. Advantages of Search Engine Optimization

Source: Author's compilation, proposed conceptual model developed for the study.

multiple regression analysis to check the legitimacy of the mentioned hypothesizes. The responses collected from the respondents were normally distributed. The identified variables entered into the equation using "Enter method." The hypothesized model for SEO is represented in Table 9. *p*-values in the table is less than 0.0001, *F*-value 85.07, and adjusted R^2 0.5558 which is acceptable, therefore all the estimated coefficients are statistically significant. The responses collected from the respondents were normally distributed. The results of multiple regression shows that SEO offers advantageous benefits to the marketer as well as to the consumer. Therefore, the researcher accepts H1, H2, H3, H4, and H5 as SEO have significant impact as a marketing tool in terms of identified factors, that is, market share, brand equity, product awareness, purchase persuasion, and consumer insights.

Table 9. Results of Multiple Regression

Variable	df	Parameter Estimate	Standard Error	*t*-value	Pr > |t|
Intercept	1	−1.29737	0.20183	−6.43	<.0001
Consumer insights	1	0.35360	0.08689	4.07	<.0001
Brand equity	1	0.16105	0.06268	2.57	0.0106
Product awareness	1	0.26027	0.06402	4.07	<.0001
Purchase persuasion	1	0.58850	0.06385	9.22	<.0001
Market share	1	−0.03765	0.03795	−0.99	0.3219

Analysis of Variance					
Source	df	Sum of Squares	Mean Square	*F*-value	*Pr > F*
Model	5	434.78171	86.95634	85.07	<.0001
Error	332	338.32808	1.02214	**Depd. Mean** 2.36000	R^2 0.5624
Corrected Total	337	773.10979	**Root MSE** 1.01101	**Coeff Var** 43.29225	**Adj. R^2** 0.5558

Source: Author's compilation.

$$Y = C + m1 \times 1 + m2 \times 2 + m3 \times 3 + m4 \times 4 + m5 \times 5$$

Predicted (Impact of SEO) = –1.29737 + (0.35360 * Consumer insights) + (0.16105* Brand equity) + (0.26027 * Product awareness) + (0.58850 * Purchase persuasion) + (–0.03765 * Market share).

Findings

The data gathered were normally distributed, as the data were checked for multi-collinearity and heteroscedasticity. The 15 variables were identified and were used for exploratory factor analysis which was reduced to five factors by using the principal component analysis and varimax rotation method. The identified factors are as follows:

> *Factor 1:* Consumer insights consist of variables: consumer online behavior, information searched by the user, consumer dissonance after purchase, feedback mechanism, and search engine analytics.
> *Factor 2:* Brand equity consists of variables: brand commitment, brand loyalty, brand image, and brand awareness.
> *Factor 3:* Product awareness consists of variables: brand recognition, product information, and product price.
> *Factor 4:* Purchase persuasion consists of variables: user reviews and scarcity of products.
> *Factor 5:* Market share.

The results of data analysis are segmented into two sections. The first section consists of descriptive statistics of demographic and search engine profile of the respondents, and the majority of the respondents between the age of 20 and 25 years with graduate level of education uses Google as their prominent search engine for mostly 15–60 minutes in order to obtain updates and information. The second section, on other hand, consists of statistical and hypothetical analysis of the identified variables. SEO as a marketing tool (F-value 85.07 and p-value < 0.0001) has significant impact on the consumers. The most prominent advantages of SEO identified in the research is it helps to increase market share (p-value = 0.3219), enhances the brand equity of the marketer (p-value = 0.0106) followed by other factors, that is, product awareness, purchase persuasion, and consumer insights.

Conclusion

Just how big a difference will SEO make to the way customers buy things? The authors suspect that this question hovers in the minds of most marketers. We can see the changes that are taking place, can track the explosive growth in access to the Internet, and can speculate about how marketing will transfer to this exciting new medium. Hence authors examine the impact of SEO as marketing tool to understand the marketing parameters which get impacted the most by SEO. In the e-shopping environment, it is necessary for the marketer to understand which marketing parameters gain strength due to SEO, so as to develop strategies accordingly.

The findings of this study improve the understanding of impact of SEO on various marketing parameters and can be used to assist marketers in developing appropriate and effective strategies accordingly. This study considered many marketing variables such as market share, brand loyalty, brand recognition, product price, product information, brand image, brand awareness, consumer online

behavior, and user reviews. The empirical results reveal that SEO has the most prominent advantages in increasing market share*,* enhance brand equity of the product followed by other factors, that is, product awareness, purchase persuasion, and consumer insight. The findings indicate that marketers should pay particular attention to SEO as it can have a long-lasting effect on multiple marketing variables.

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