



Content Analysis of Encyclopedia Britannica (Online) based on Evaluation Indicators and Website Metadata: a mix-method approach

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Abstract

The study aims to analyse the Encyclopedia Britannica online as an authentic and recommended website for the literary world, especially school, college, and university students for their daily information needs regarding many aspects of human knowledge. The study is the first of its kind which chooses Encyclopedia Britannica online as an information source for evaluation based on website metadata and evaluation indicators, a mixed method approach. Where it is evident that Britannica secures 1,220 ranks among the list of all websites in the world with 51.6 million active users within a month. The website also derives traffic from hyperlinking by other 6 most prominent websites and 5 social networking sites namely YouTube, Reddit, and others. Sharing of website link ensures their authenticity and popularity among the user group of 18 to 34 which highly recommends offline purchases and online subscriptions in schools, colleges, and university libraries.

Keywords: Content analysis, Encyclopedia Britannica, Evaluation indicators, Metadata analysis, User count, Website traffic

1. Introduction

With the rise of the information age, resources are abundant for users in both online and print forms. Information and communication technology has increased the online availability of data assistance because of which users are always stuck in the buzz of information. In the age of flooded information over the internet, a user cannot distinguish between authentic and non-authentic sources. To reach the desired information, an authentic website is to be found as the potential source of query resolution.

In the information age, when conducive to information and communication technology, the web was flooded with an exceedingly large number of websites at user disposal. After some time, the count raised exponentially to more than 2 billion websites today. And this became the responsibility of library and information professionals to critically analyse and ensure the website users about the actual relevancy of the website.

In that case, checking the validity and authenticity of the website become more and more essential, and the study picks one such



source on the internet to check the genuineness and correctness in perspective of usage among the literary community. Encyclopedia Britannica is the world of knowledge that touches every aspect of human knowledge for the reader category and must be analysed as a reliable source of knowledge, for better collection development of the school, college, and university libraries.

2. Literature review

Avouris, Tselios, Fidas and Papachristos (2001) proposed various techniques to evaluate websites on the basis of usability perspective as they consider usability as one of the qualitative indicators of any modern website. The web is used for a wide range of complex tasks, including learning, retrieving information, chatting, and connecting with peer groups (Shum, 1996). Avouris and the team of researchers used heuristic rules that signified efficient interface design. It is a well-established, appreciated, expert-based evaluation technique, which can be applied in many other domains (Avouris, Tselios, & Tatakis, 2001; Levi & Conrad, 1998). Whereas, many websites today are less usable while a large number of websites are non-operational (Ivory & Hearst, 2002).

Abbas, Yunji and Franz (2011) conducted a website evaluation based on structural evaluation and oriented towards business-based content comparison. It includes a survey of automatic website evaluation tools. Ahmadi- Abkenari and Selamat (2012) used clickstream-based web page importance metric (LogRank) for measuring the credibility of the website. Moving next to user behaviour (Pantano, Servidio, & Viassone, 2011) measured the impact of the website quality of hotels on users' perception of hotels. Noldus (2003) Company found 'Observer' as the behaviour observation tool which measures the user's

actual satisfaction level. The current study does a holistic evaluation by including all possible metadata descriptions whereas Gen (2006) studied the change in the website ranking with regard to the website traffic only. A model was framed by Rafe and Monfaredzahed (2012) which talks about content quality, design quality, organisation quality, user-friendliness, and functional quality from a technology perspective. Jeddi, Gilasi, and Khademi (2017) in their systematic review study also discussed various models of website quality evaluation involving WEB-Q-IM, Mile, Minerva, Seruni Luci, and Web-Qual models.

Although many studies have been conducted in the field of website evaluation in recent or past years, the current study is the first attempt to evaluate a specific website namely "Encyclopedia Britannica Online". The studies of the past helped in putting the generalised quality indicators or evaluation criteria. Whereas this was a gap in applying these indicators in evaluating prestigious websites of academic endeavour. "Encyclopedia Britannica Online" is an eminent subscription-based web information source, which is ought to be analysed in order to justify its purchase for academic libraries.

3. Scope and limitation

The scope of the study extends prominently to school, college, and university students. However, considering the wider audience, the complete literary community could be benefited from the practical evaluation of information available on the web. The study delimits itself and focuses only on one popular website, Encyclopedia Britannica whereas an informational world is still vulnerable and susceptible to questionable correctness, hence efforts are much needed to explore the evaluator domain regarding the use of popular websites.



4. Objectives

- To find out the website rankings (global, country-wise, and category-wise)
- To identify the geographical distribution of the website users
- To find out the age-wise distribution of the user group of the website
- To study the social media traffic and marketing channels distribution of the website
- To depict the type of referring websites.

5. Methodology

The current study focuses on the multi-dimensional analysis of a website named "Encyclopedia Britannica" online for which a mixed method approach has been used. The website metadata statistics have been derived by the "https://www.similarweb.com" visited on 3rd, October 2022, in the search bar of which the URL of the "Encyclopedia Britannica Online" was entered and the result obtained includes "website global ranking", "country-wise ranking", "category wise ranking", "total visitors count", "bounce rate", "pages per visit", "average visit duration", "country wise user distribution", "age-wise user distribution", "marketing channel overview", "social media traffic distribution", and "referral website" and a quantitative review has been prepared however the qualitative part of the study is developed using certain quality evaluation indicators given by "Lydia M. Olson library" website "https://lib.nmu.edu" in the "subject guides section", which was accessed on 27th, September 2022. The indicators are entitled "evaluating internet sources" including "URL appropriateness", "Responsibility/ author", "purpose", "documentation", "information",

"uniqueness", "overall format", "ease of navigation", and "aesthetics".

6. Data interpretation

Qualitative data analysis includes the status of "Encyclopedia Britannica" concerning evaluation indicators. The indicators have been extracted from the Lydia M. Olson Library website. The website provides an extensive list of indicators that are used for evaluating internet resources.

6.1 URL appropriateness

It explains the "Activeness and correctness of the Uniform Resource Locator"

"Encyclopedia Britannica Inc" is the publisher of "Encyclopedia Britannica" and the URL contains the name of the handler itself. It is a commercial website and the online publishing committee is covered in the 'our team' segment of the website. Hence the URL refers to the material which is mentioned in the URL itself. So, the URL is appropriate.

6.2 Responsibility/author

It explains that "Who is taking the authority of the website?"

'Encyclopedia Britannica' itself takes responsibility for the page. The team of 'Encyclopedia Britannica' is maintaining and running the page since it is available online. They had also given an 'about us' section where contact information is available. 'Helpform' is given for the US, and Canadian users, and fax, toll-free numbers, e-mails, and web addresses are given for helping people from Australia, and the Asia Pacific.

6.3 Purpose

It explains that "For what reason, the website has been created?"

Encyclopedia Britannica is a



commercial page, sustaining its online publishing expenses and providing a free platform to access knowledge. Its tone is courageous enough to put forth clear aspects about any topic. It is a collection of properly documented information. It is detained to satisfy the background information needs of a user.

6.4 Documentation

It explains "the level of credibility of the website on the basis of publication ethics".

Encyclopedias Britannica extends due respect to all sources from where the information is retrieved by providing copyright information for every reference taken from external sources, whereas no external links are provided. And the hyperlinks provided do refer to the same site, hence no susception can be there.

6.5 Information

It explains "the credibility of the content of the information source".

Encyclopedia Britannica is a highly reliable online source, which has won the trust of 140M+ students and 80+ countries. It covers the data in 1000+ categories. 80k+ words are covered also. It is also Up To Date and current because of the team which is responsible for regular updating. New information is added regularly. 'On this day features show it's up to datedness.

6.6 Uniqueness

It explains "the unique features in the website which make it worth reading".

The site does not provide any external links rather it refers to the same, Encyclopedia Britannica being a secondary source of information does not contain originality of thoughts but rather a compilation of vast information on a single platform. On its

footnote, mobile app links (for iPad, iPhone, etc.), and Escola links Merriam Webster Links are provided. Providing aid to online Encyclopedia Britannica. A quiz section is also included.

6.7 Overall format

It explains "the layout, design, and configuration of the website".

The online Encyclopedia Britannica has a good structure, and proper arrangement of information, it is user-friendly, and 'categorical browsing' add up to a good feature. There is clarity in the content display, hyperlinks refer to the same web page solving the query. The headings given are relatable to the content. 1000+ categories are made for easy search.

6.8 Ease of navigation

It explains "the level of ease in finding the needful content on the webpages".

The site is very easy to navigate as any type of query can be searched either by categorical search or by the 'search Britannica' segment. Site maps are given for convenient use of the website. Online help is also been provided through the 'contact us' or 'about us' section. Queries can be personally sent by email and fax as these addresses are also given.

6.9 Aesthetics

It explains "the satisfaction of users with the use of colors, visibility, and convenient navigation at the website interface".

The physical appearance of the site is appreciated, has a good design, all principles have been followed, its physical appearance is calming and eye soothing, and it feels aesthetically sound. The colours are refined and pleasant. It leaves a good and remembered type of image in the user's mind.



7. Website meta-data analysis

Website Metadata-analysis by analysing website metadata of Encyclopedia Britannica (Britannica.com) has been done with the help of two web applications "google analytics" and "similar web". Both applications provide metadata statistics regarding all registered websites.

Table 1: Website rankings

Website Ranking Systems	Position
Global Rank	1,220
Country Rank	680
Category Rank	07

With the boom in electronic communication, the total website count reaches up to 2 billion. Out of which Encyclopedia Britannica secured its position in the top 1500 websites out of the gob. On the other hand, it ranked seven in the category of encyclopedic websites, which demarcates that Britannica secures a high reputation amongst the encyclopedic websites and establishes its authenticity and trust in the website world.

The total website count in the United States is 133,361,676, out of which Britannica marks the seventh rank, assuring the significance in the top 0.001% of the

websites. Interpreting the rankings of encyclopedia Britannica, it is evident that it maintains a high standard as a source of an information provider, as it fulfills all the global standards for automatic optimisation as it popped up in the second position when search engines are raised with a query "Encyclopedia websites".

Table 2: Website descriptions

Website Description	Metadata
Total Visits in August 2022	51.6 million
Bounce Rate	64.25%
Pages per Visit	2.32
Average Visit Duration	00:02:12

The total visit count in the month of August accounts for more than 50 million, which signifies that more than 50 million users have visited the website in a period of 30 days, which signifies good website traffic.

Bounce rate is the ratio of total single page sessions and total sessions on the website, where a bounce rate of 56% to 70% is taken to be a good bounce rate which suggests that the website acquired a good bounce rate, further marking a high visit count and an average of 2-minute stay on the website with surfing it's one or the other web page.

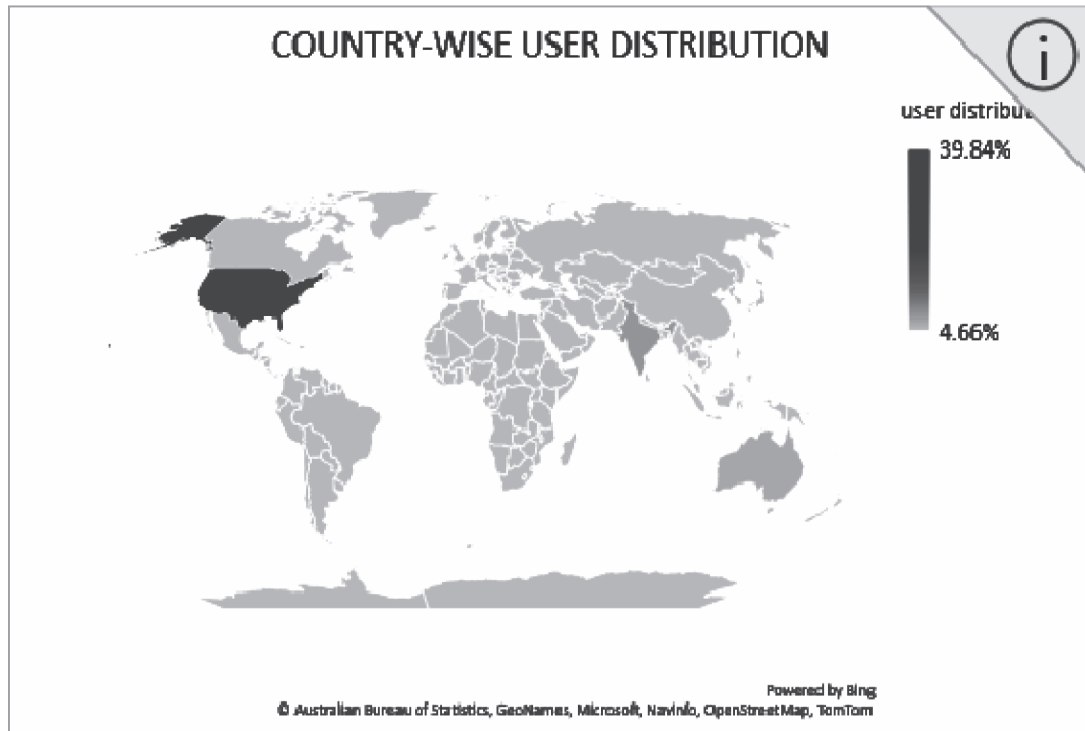


Figure 1: Geographical distribution of the users

Figure 1 depicts the geographical distribution of the website users. The map clearly shows that the user group is prominently from four major countries namely the United States (39.84%), India (7.58%), Australia (6.23%), the United Kingdom (5.10%), Philippines (4.66%), and (36.59%) from the other countries. The popularity of the encyclopedia in the United

States and the United Kingdom is indirectly signifying that both countries have published the encyclopedia, United Kingdom (1768-1826) and United States (1901-present). On the other hand, India contributes the greatest number of users as India possesses a huge population using the internet due to its cheap availability.

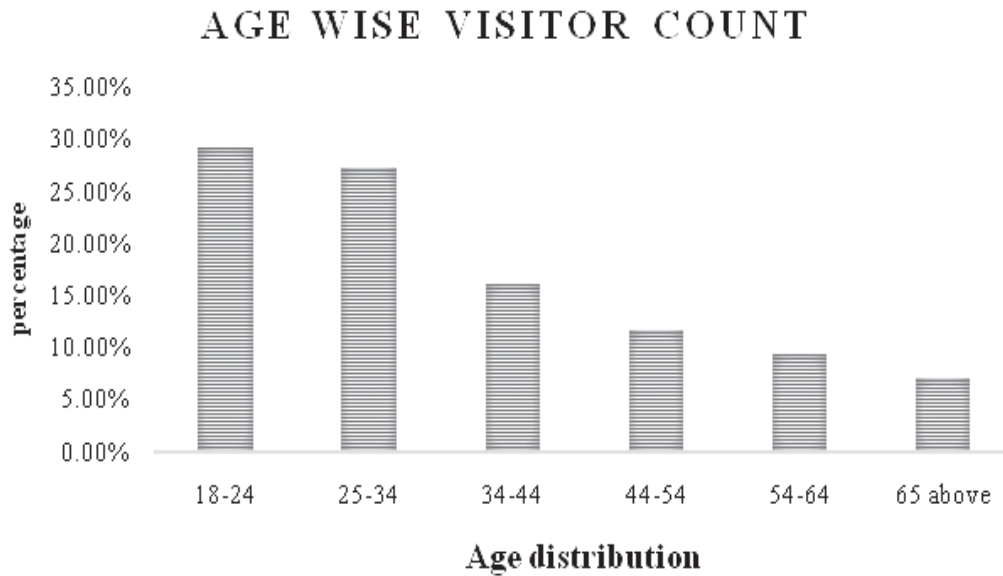


Figure 2: Age distribution of the visitors

The age-wise visitor count has been depicted in figure 2. It is evident from the figure that most of the traffic on the website belongs to the age group 18- 34. This implies that it must be the high schools, college, and university students who are using the Britannica website for their informational purposes. The student age group indicates the ought presence of the Encyclopedia

Britannica in the collection building policies of higher education institutes.

Furthermore, encyclopedias incorporate all the areas of worldly knowledge justifying a broader range of audiences, which is the main cause of their usage by all age groups of people.

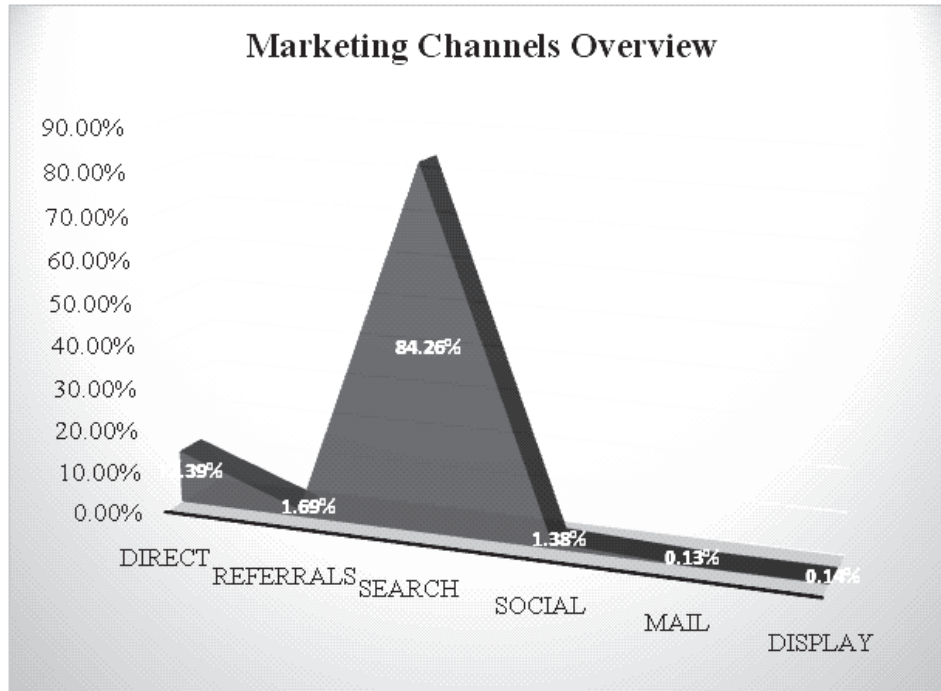


Figure 3: Marketing channels depiction

A marketing channel is an entity that is responsible for the consumerism of the website. The ways by which websites are promoted and brought out to use are referred to as marketing channels. Where the peak in the above graph is representing a direct search by the users of the website, whereas the authoritative bodies are collaborating to generate mails, referrals and social sites to generate a public capture.

In the case of Encyclopedia Britannica, 'search' and 'direct' are together responsible for 96.65% of the marketing of the website, whereas emails are least used for the popularising of the website. The statement simply suggests that most of the users visit the website by a simple search in the search engines. Whereas emails are least used because formal communication is less preferred in the student group.

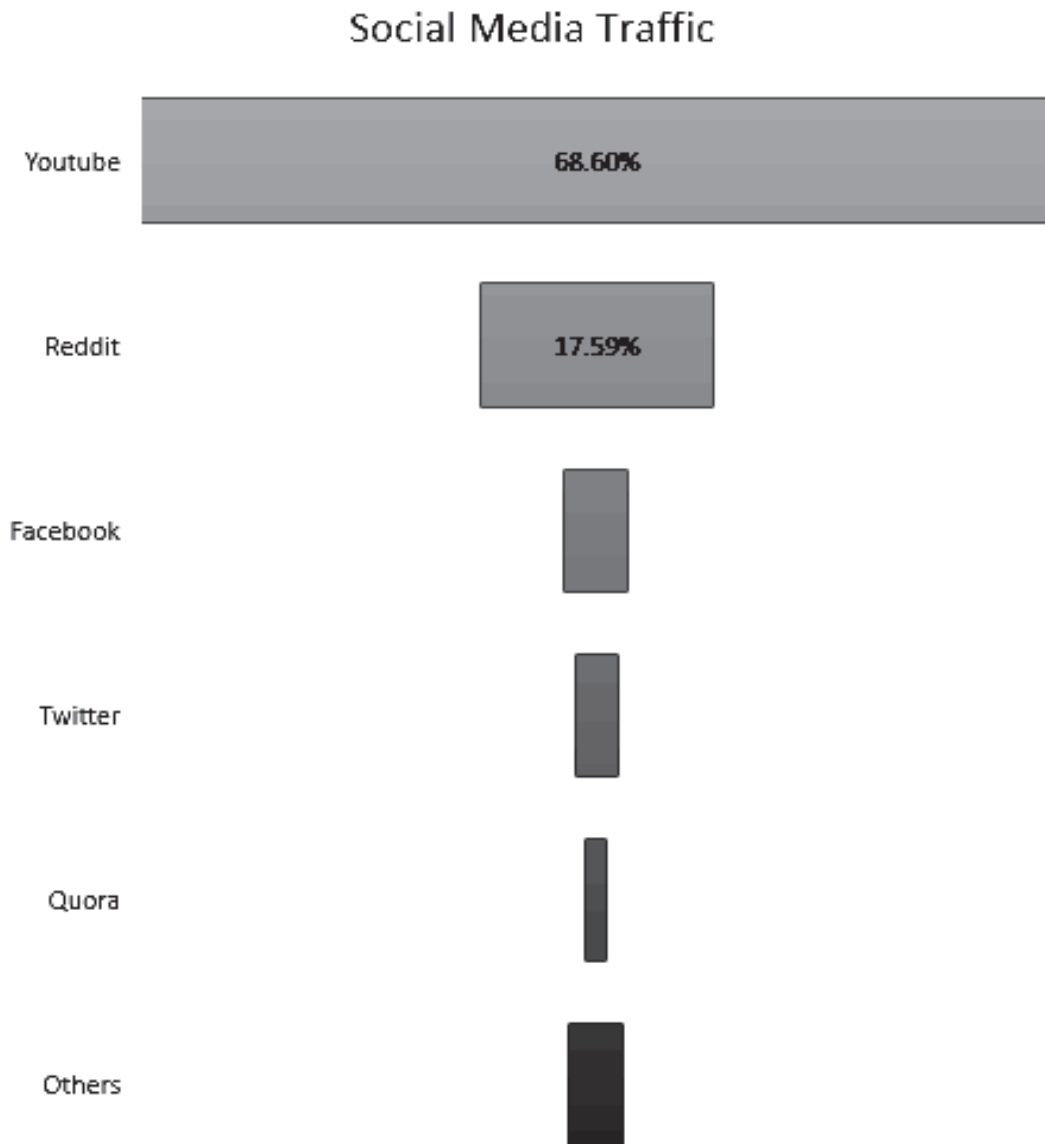


Figure 4: Social media traffic distribution

Figure 4 suggests that the website has been shared on other social networking sites, where the most prominent sharing websites are YouTube, Reddit, Facebook, Twitter, and Quora respectively. When comparing the

website user counts, it is evident that YouTube, Reddit, Facebook, Twitter, and Quora are listed in the top 20 websites among all the active websites in the internet world, which implies that these websites are



extensively used by the worldly population to share information, justifying the fact that encyclopedia Britannica has been referred

and shared among the internet world by these popular websites.

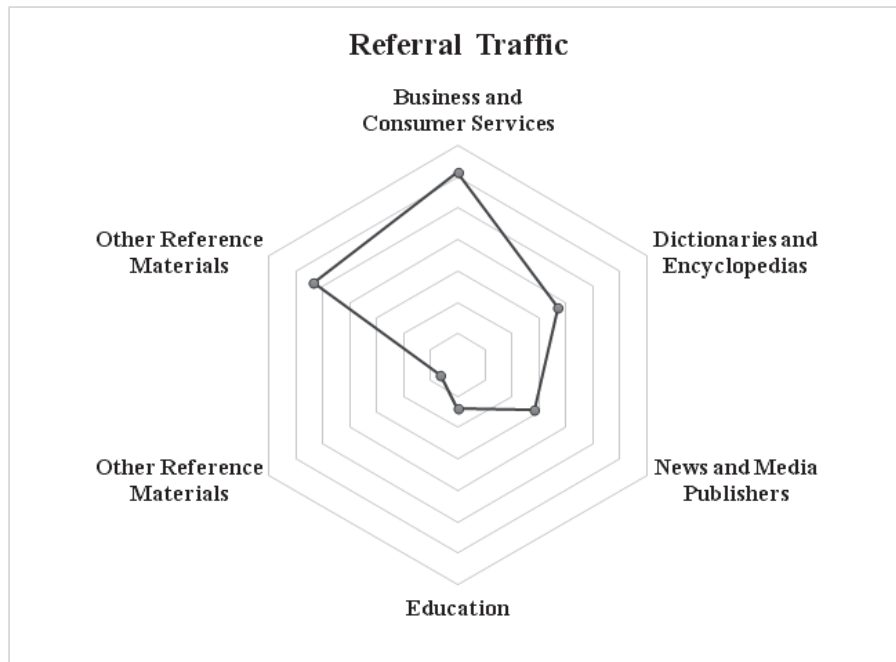


Figure 5: Referring websites

Referring websites are the websites that guide the users toward the Britannica homepage. It happens when user is surfing on any other website and finds an active link to Britannica's authentic website. Figure 5 shows the type or category of the referring websites which guide the user toward the Britannica homepage by directly giving the hyperlink to the Encyclopedia Britannica online. The figure depicts that a maximum of the websites belongs to the group of business and consumer services websites, reference materials, dictionaries, and encyclopedias respectively. Being the sharing of Britannica hyperlinks on business and consumer websites, the analysis concludes that, as the industrial revolution came and flourished, the

encyclopedia Britannica came into existence, giving a detailed description of the processes of the secondary and tertiary sectors of the economy, and explaining the concepts of business and consumerism. For the coated reason, Britannica is shared by the group of websites belonging to the business and consumer service. Another referring group is reference materials or encyclopedias and dictionaries, the student group may share information with the peer group regarding any topic under study.

8. Conclusion

An online source must be evaluated to sort better and more reliable sources from the abundance of information content available



online. The current research evaluates Encyclopedia Britannica Online, to check its level of authentication, validity, and reliability, for use. The website is analysed as good to use and derives desirable data from the website. The online Encyclopedia Britannica analysis survey is carried out using qualitative (evaluator indicators), and quantitative (website metadata and statistical study), which means, that is a mixed method approach, where the website is found suitable for subscription, and purchase in school, college, and university libraries.

The challenge which mainly focuses to ponder is the attempt towards the inclusivity of evaluator indicators. A variety of studies exist that described the criteria for evaluation of websites that are non-inclusive of all website angles which leads to website correctness, validity, and user satisfaction. The study guides future researchers to the development of a holistic framework for website evaluation, and continuation in this area of study pointed towards further establishing the authenticity and correctness of all education websites by the IT assistance cell of the modern-day learning resource centres which are subscription-based. This strengthens the electronic collection building of the libraries, where schools, colleges, and universities have primarily been focused.

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