Visualizing Bibliometric Networks on Green Advertising Literature: What we know and what we do not know

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ABSTRACT

This article aims to perform a bibliometric analysis of the extant research in the area of green advertising to identify the dominant themes and research gaps in the said area. For the purpose of the study, 220 articles were sourced from the Scopus database after running a search query using designated keywords. This study examines the literature on green advertising over the last few years and reviews the published documents using VOSviewer software. While shortlisting the research articles, open-access articles, conference papers, and papers written in other languages were discarded. The study shows the key research trends in the area of green advertising, in terms of parameters like co-author analysis, keyword analysis, country analysis, and organizational analysis. Journal of Advertising, International Journal of Advertising and Sustainability are the leading journals publishing papers in the area of green advertising. China, the United States, and Korea play a major role in research on this topic, with the highest number of corresponding authors coming from these three countries. The findings provide useful insights to academicians in terms of directions for further research that needs to be done.

Keywords-- Green Advertising, Bibliometric Analysis, Keyword Analysis, VOSviewer

I. INTRODUCTION

Green advertising, also known as eco-friendly advertising or sustainable advertising, refers to marketing communications that promote products or services with a focus on their environmentally friendly attributes (Ottman, 2011). This form of advertising aims to appeal to consumers' growing awareness and concern for environmental issues, such as climate change, pollution, carbon emissions management, and resource depletion. Green advertising seeks to convey a message of corporate responsibility, environmental stewardship, and commitment to sustainability. Green advertising campaigns are typically targeted towards environmentally conscious consumers. These consumers are concerned about the ecological impact of their purchases and it is believed that they are more likely to support brands that align with their values. Advertisers conduct market research from time to time to understand the preferences, behaviours, and attitudes of this target audience to tailor their messaging effectively. Four main things stand out when it comes to green advertising: Firstly, the messaging in green advertising always emphasizes on the eco-friendly aspects of the product or service being promoted such as sustainable materials, eco-friendly packaging, eco-labeling, energy efficiency, recycling initiatives, carbon footprints attached, and any other environmentally responsible practices. Secondly, visual elements play a very crucial role in green advertising. Advertisements often incorporate images of nature-related signs, clean energy technologies, recycling symbols, and other visuals such as eco-labels that evoke feelings within consumers about the environmental consciousness of such brands. Thirdly, green advertisers utilize a variety of channels to reach out to their current as well as prospective consumers, including television, print media, digital platforms, social media, and outdoor advertising. Advertisers leverage these channels and generally go ahead with integrated marketing campaigns to engage with their target audiences. Fourthly, of late, there has been a lot of debate about how a lot of these environmental claims made by many organizations are dubious and how so many organizations are basically practicing green washing, leading to calls for more transparency in environmental reporting. Brands need to back up their environmental claims with verifiable evidence and certifications, such as eco-labels, third-party audits, or sustainability reports if they want to hold on to their customer base. A study done recently in Europe involving advertisement agency heads and executives revealed that the leading sustainability aspects in advertising include environmental impact (58 pc), followed by carbon reduction (55 pc), social justice (39 pc), and bio-diversity loss (8 pc).

In this era of heightened environmental awareness, the consumers of today are increasingly seeking sustainable choices, prompting brands to embrace green advertising as a key strategy. Many studies have

been conducted trying to profile green consumers, some trying to understand their psyche better, and some trying to measure the effectiveness of green advertising campaigns through marketing outcomes, such as awareness, sentiment, intent, and actual sales. But still, there are a lot of research gaps that exist in the academic literature. This research tries to provide insights on the dominant research themes as well as the underlying research gaps in the area.

II. RESEARCH PURPOSE

The purpose of the study is to perform a bibliometric analysis of green advertising literature to gain a better understanding of trends and developments in this field. This study proposes nine research questions:

(1) What is the evolution of research on Green Advertising?
(2) What are the most-cited documents on Green Advertising?
(3) What are the most-cited journals?
(4) Who are the most frequently published authors?
(5) What are the most relevant universities?
(6) Which are the most relevant countries?
(7) What are the main clusters of research on Green Advertising?
(8) What are the dominant themes research-wise?
(9) What directions can be given to future researchers in this field?

This study contributes to the literature in several ways, highlighting areas for future research in the field of Green Advertising.

III. RESEARCH METHODS

The current study employed bibliometric analysis to examine and synthesize the available green advertising literature. The selection of documents or articles plays an important role in bibliometric analysis. This study obtained documents from the Scopus database and conducted a systematic literature analysis to summarize published content in the chosen topic. A search query was run on Scopus with the keywords 'Green Advertising', 'Green Advertisement', and 'Green Advertisers' The search strategy returned a total of 220 documents. For the study, the following inclusion criteria were set: Firstly, articles were restricted to the fields of Business, Accounting, Economics, and Finance. Secondly, only full-length research articles and review papers published in journals were chosen, rather than conference papers, book chapters, theses, or editorials. Thirdly, we considered only those articles that were published in English. There are several software used to conduct bibliometric analysis across platforms like R, Python, Research Rabbit, and VOSviewer. In our study, we went ahead with VOSviewer to visualize the documents and authors in different clusters as it is one of the easier as well as highly trusted software.

IV. RESULTS AND FINDINGS

4.1 Evolution in Green Advertising Research

Based on the filtering criteria, the first proper research article in the area of Green Advertising was published in the year 1968. No significant research works were published between the years 1970 and 1992. Going by the data, it can also be seen that most of the research happened between the years 2010 and 2023, with 2022 seeing its absolute peak as more than 30 research articles were published on the topic. The number of articles published in 2024 is five but this number is expected to increase further as data is considered only till the month of January, 2024.
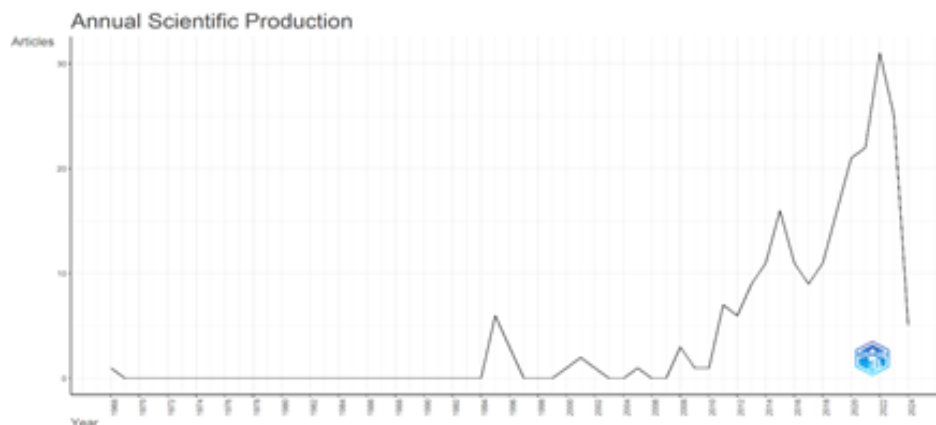

Figure 1: Scientific Production over Years

4.2 Most Cited Documents

Because the topic is a niche topic, the analysis includes all published documents with at least one citation. Figure 2 identifies the top ten research works that have received the highest number of citations. Roberts (1996) pioneering work published in the Journal of Business Research on green consumerism set in the 90s garnered a total of 972 citations worldwide. In his study, Roberts reveals that the consumers' belief that they, as individuals, can help solve environmental problems was found to be the best predictor of ethical behaviour. Prior to this, Shrum's (1995) work had also garnered a lot of acclaim, amassing a total of 393 citations. He constructed a psychographic profile of the green consumer in terms of variables directly related to purchase behavior, such as price consciousness and general care in shopping, interest in new products, and brand loyalty.
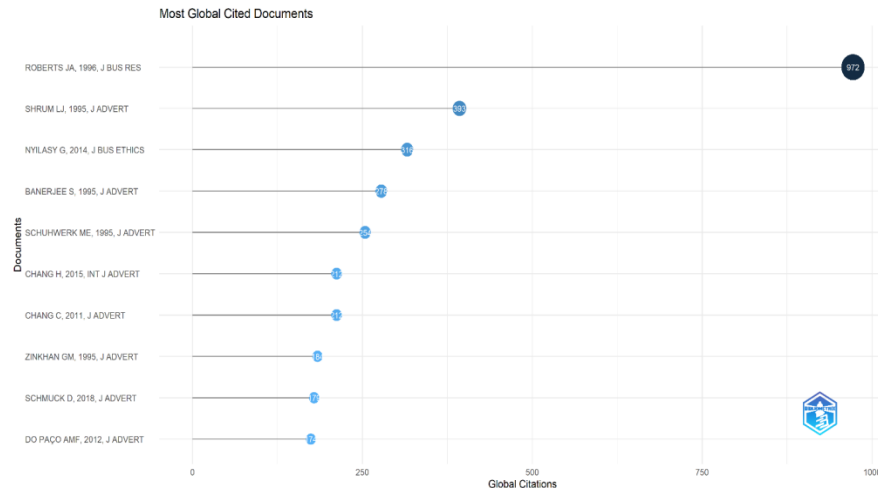

Figure 2: Most citations worldwide

4.3 Most Cited Journals

While research on green advertising has been published in multiple discipline-specific as well as interdisciplinary journals, the Journal of Advertising, International Journal of Advertising and Sustainability are the leading journals with the most relevant sources over time.

Journal Name	Publisher	Documents	Quartile
Journal of Advertising	Taylor & Francis	18	Q1
Sustainability	MDPI	11	Q2
International Journal of Advertising	Taylor & Francis	10	Q1
Journal of Cleaner Production	Science Direct	6	Q1
Asian Journal of Communication	Taylor & Francis	5	Q1

In order to see which journals are having a higher local impact, we sort journals by their h index. Journal of Advertising (16) is ranked highest, followed by International Journal of Advertising (7) and Sustainability (6).
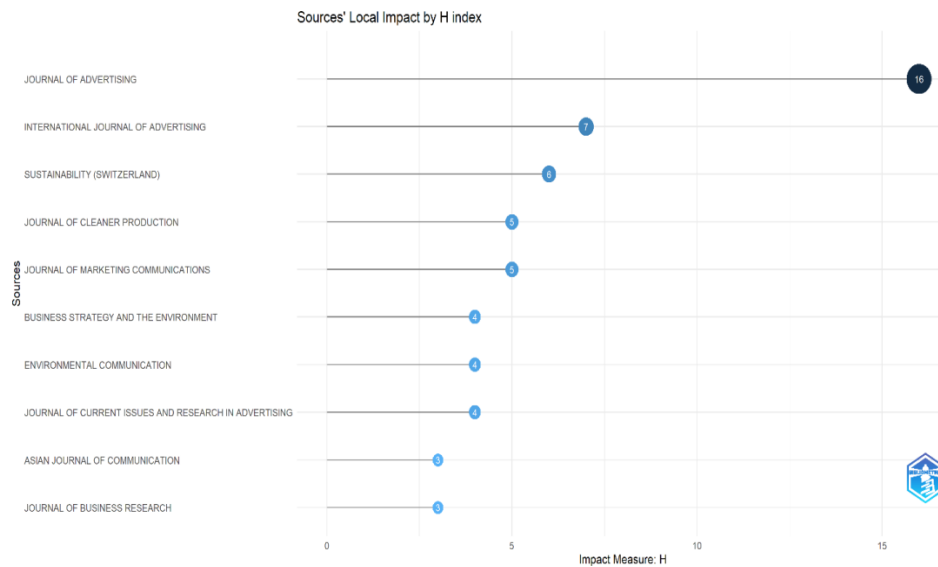
Figure 3: High Impact Journals (H index)

4.4 Most Published Authors

If you go through the chart reproduced below, you can point out easily who the most published authors are of Scopus-indexed papers in the area of Green Advertising.

Alamsyah DP and Hartmann P have published six papers each as authors whereas Atkinson L, Li Y and Othman Na have published five papers per person.
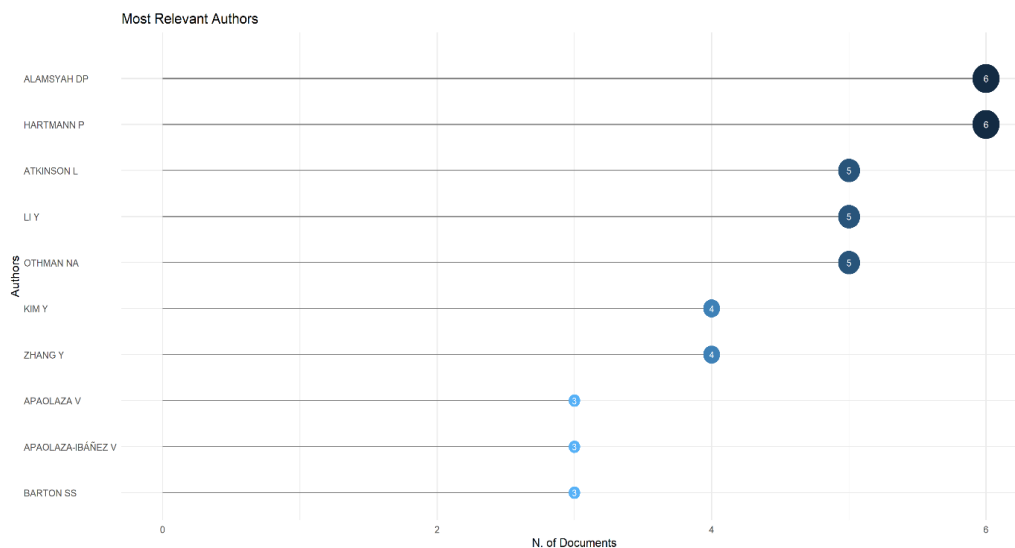

Figure 4: Most Published Authors

4.5 Most Relevant Organizations

Most of the organizations are Asiatic countries. Authors from Bina Nusantara University have published eleven relevant works in the area of Green Advertising.

The next highest numbers are from Universiti Kebangsaan Malaysia and University of Science and Technology of China with ten papers from each of these institutions.
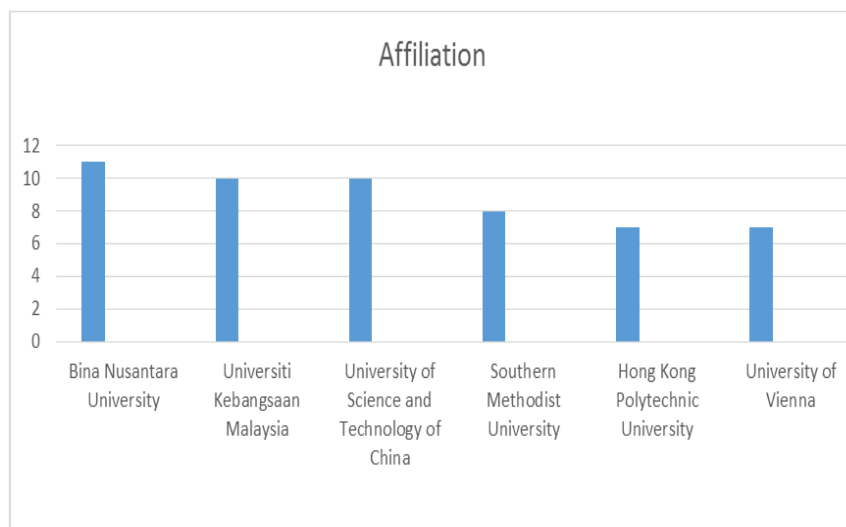
Figure 5: Most Relevant Affiliations

4.6 Most Cited Countries

While research on green advertising has happened in multiple countries across continents, the most amount of research has emerged from countries like China and the United States.
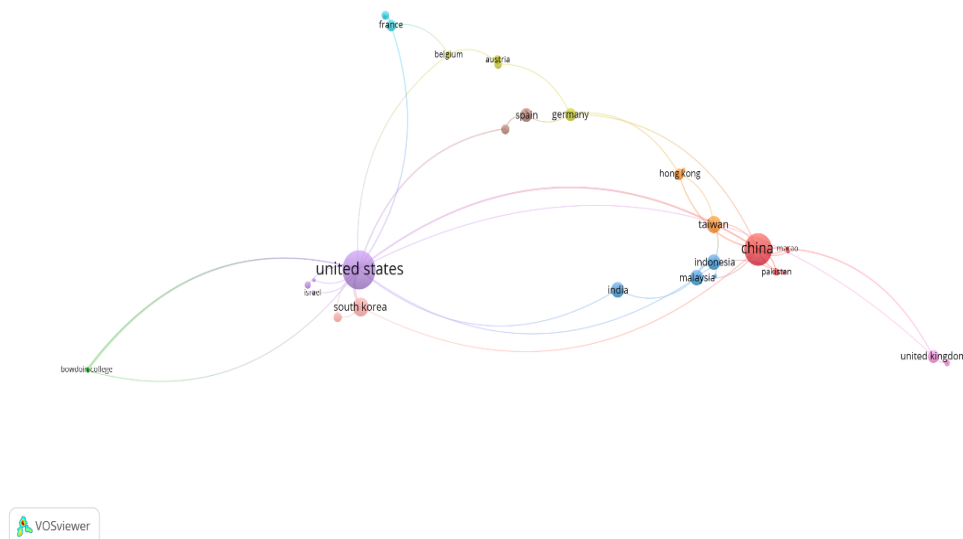

Figure 6: Visual Depiction of Co-Authorship across Countries

If you are trying to look into this in a segregated manner, data on the relevant literature is also available for single-country publications (SCP) and multiple-country publications. When it comes to single-country publications, the top three countries in terms of the number of documents are China, the United States, and India. On the other hand, when it comes to multiple-country publications, the top three countries in terms of the number of documents are Korea, China, and the United States.

Figure 7: Highest publishing countries

4.7 Most Used Word Clusters
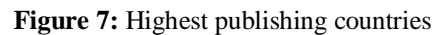
An analysis of keyword occurrences shows which keywords have been most widely used by authors in their papers. The size of the nodes represents the frequency of occurrences. Keeping green advertising aside, the three keywords with the highest mentions include Sustainable Development (16), Environmental Protection (10), and Purchase Intention (9).

Figure 8: Word Clusters

4.8 Dominant Themes

A thematic map is created from the sourced articles based on relevancy. Surveying the themes, it can be inferred that most of the research works centre around five themes: Consumer Awareness, Environment Protection, Green Marketing, Advertising effects, and Consumption Behaviour in general. Some of the techniques used in the identified research papers such as Estimation, Bayesian Parameter Estimation, and Content Analysis etc. are categorized as a theme too.
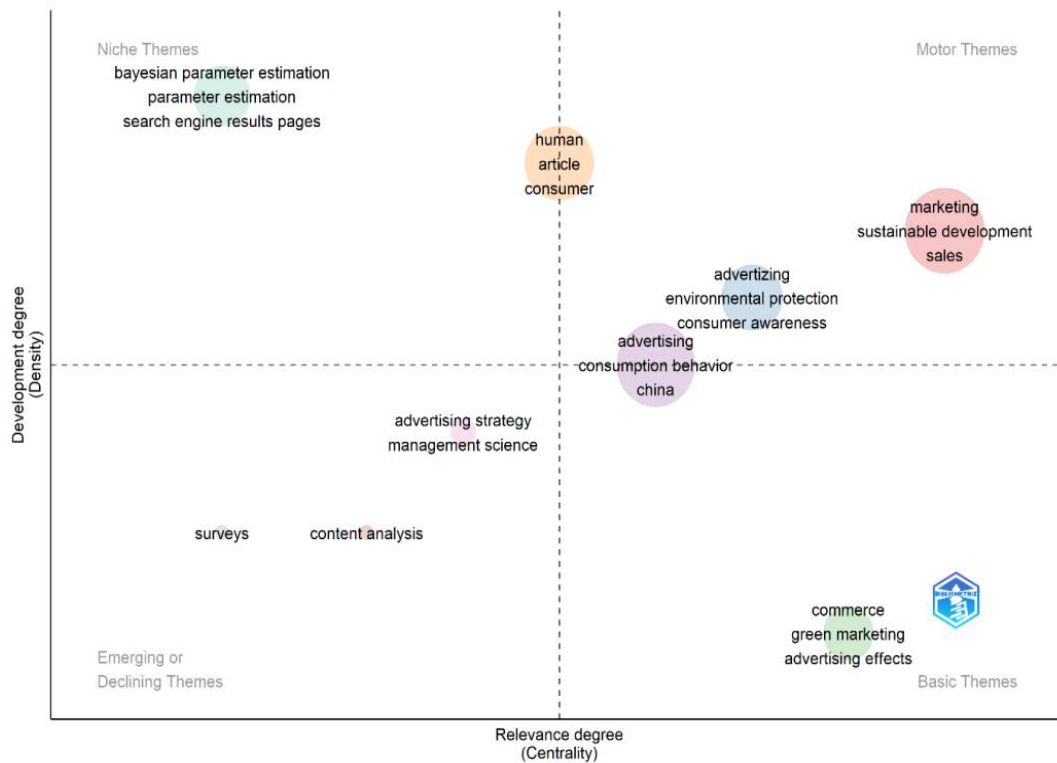
Figure 9: Thematic Mapping

4.9 Conclusion and Directions for Future Researchers

      This study is an attempt to visualize the extant literature on green advertising and identify trends and patterns in the publication process. Like any other study, this paper has its fair share of limitations. These limitations in their own way serve as a guide for future researchers. Interested researchers can look into other databases as well such as EBSCO, Proquest, and Web of Science to pick research papers from a wider pool of literature. They can also adopt stricter inclusion-exclusion criteria to shortlist the best possible research papers on the topic. Researchers can look into other parameters of bibliometric analysis as well such as co-author analysis, co-citation analysis, and bibliographic coupling, which are not included in this paper. It is advisable also to go for empirical research on the said topic, establishing linkages between key concepts such as green marketing efforts and purchase behaviour.

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