

THE NOTORIETY OF BIBLIOMETRIC ANALYSIS IN THE FIELD OF MARKETING

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Abstract: *Bibliometric research has recently gained much interest from academics seeking to investigate a particular topic. This study aims to explore the interest of marketing specialists in investigating marketing-related topics using bibliometric analysis. The paper includes the following sections: general information about bibliometric analysis, research methodology and how the database of articles was designed, data analysis results, conclusions and other insights. In this study, we considered the Scopus database for selecting the set of scientific papers. The applications used in the data analysis process are VOSviewer and QDA Miner. To achieve the purpose of the research, we analysed the productivity and impact of countries, journals and papers on the topic of bibliometric analysis in marketing. We also tried to identify the marketing-related concepts that generated the most interest from the specialists in their bibliometric analysis. The study aims to highlight the favorite topics related to marketing that specialists are interested in exploring through bibliometric research.*

Keywords: *bibliometric analysis; literature review; marketing; VOSviewer; Scopus database.*

JEL Classification: *M30; M31*

1. Introduction

The academic world pays more and more attention to bibliometric analysis, realizing the benefits that complex and complete bibliometric analysis can bring to the understanding of a field of study. Donthu et al. (2021) emphasize the rigour of this research method for exploring large volumes of scientific data. The extent of the bibliometric analysis is due, on the one hand, to the availability in scientific databases such as Scopus, Web of Science, Google Scholar, PubMed, etc. of the data needed to carry out the analysis, but also to the appearance of a significant number of software applications (Moral-Munoz et al., 2020; Xie et al., 2018) specially designed for easily carrying out bibliometric analysis and generating indicators of interest for specialists, among these applications are frequently

mentioned Bibexcel, CitNetExplorer, Biblioshiny, CiteSpace, VOSviewer, Gephi, etc.

In the context of investigating scientific literature, bibliometric analysis is approached alongside other methods that aim at the same goal, such as meta-analysis and systematic literature review, with the mention that bibliometric analysis and meta-analysis are quantitative techniques, and the systematic review of the literature is mainly a qualitative one (Donthu et al., 2021). The acceptance of bibliometric analysis as an evaluation method and decision-making technique together with other research methods will be an advantage for both specialists and scientific research, and this comes as a result of numerous research on the applicability of bibliometric analysis, as well as the usefulness proven by bibliometric tools (Gauthier, 1998). Other researchers consider that bibliometrics can only serve as a component or tool in a broader framework of research viewed as a unitary whole in terms of data quality, reliability of methods and indicators, and the validity of findings and conclusions (Waltman and Noyons, 2018).

The specialized literature mentions two major categories specific to bibliometric analysis: performance analysis and science mapping, aiming at the contributions of components involved in research and the relationships between them, where the research components could be authors, countries, institutions, journals, topics (Donthu et al., 2021). As specific performance analysis objectives, the following are indicated: productivity in the researched field - reflected by the number of publications, respectively impact on the field - reflected by the number of citations.

Bibliometric analysis based on mixed bibliometric techniques that combine co-citation analysis and bibliographic coupling analysis can bring advantages and benefits in the field of knowledge regarding marketing literature (Maucuer et al., 2022). Among the advantages and benefits brought by bibliometric analysis that complete the suite of achievements in the field, the following are included: finding new themes of marketing research, helping researchers achieve a deeper understanding of a targeted field of interest, identifying trends in the targeted marketing field, providing an overview of the analysed marketing field, contribute to the flow of new knowledge and the research orientation of both researchers and practitioners to current issues and findings (Sánchez-Camacho et al., 2021).

Research in the field of marketing and its related subjects has experienced a significant increase in recent decades (Nicolas et al., 2020). The academic world pays more and more attention to bibliometric analysis for marketing topics - from general topics such as consumer behaviour and digital marketing, to very specific topics such as the approach to obesity in marketing research (Onjewu et al., 2022).

2. Research methodology

The study aims to explore the interest of specialists in investigating marketing-related topics using bibliometric analysis. Achieving the objectives of this study required formulating the following questions:

Q1. Which is the evolution in time of the interest for bibliometric analysis in the investigation of marketing-related topics?

Q2. Which countries have the highest scientific productivity and impact for the field under investigation?

Q3. Which are the journals with the most scientific productivity and impact on marketing-related topics bibliometric analysis?

Q4. What are the most relevant marketing concepts addressed in bibliometric analysis articles?

The search process

To carry out this study, we chose the Scopus database to select the papers that will be included in the study. The selection of papers was made in May 2022, so for the year 2022, only the first 5 months of the year were considered.

The selection algorithm presented below was used to select the papers from the database, for words in the title, abstract or keywords sections. In the "Subject area" category, the fields that we did not consider relevant to the current research were excluded. In the Document Type category, we chose only papers from the "Article", "Review" and "Conference Paper" categories. Also, we kept in the selection only the papers written in English. In the first stage, after the selection, there were 1084 papers in the database (dataset). Later, we analysed the papers evaluating the title, keywords and, in some cases, the abstract, and kept 447 papers in the database. The selection algorithm used is the following:

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TITLE-ABS-KEY ( ( bibliometric AND marketing ) OR ( bibliometric AND ( customer OR customers ) ) OR ( bibliometric AND ( promotion OR advertising OR branding OR "sales force" ) ) OR ( bibliometric AND ( pricing OR placement ) ) OR ( bibliometric AND ( segmentation OR targeting OR positioning OR differentiation ) ) ) AND ( LIMIT-TO ( SRCTYPE , "j" ) OR LIMIT-TO ( SRCTYPE , "p" ) ) AND ( EXCLUDE ( SUBJAREA , "ENER" ) OR EXCLUDE ( SUBJAREA , "PSYC" ) OR EXCLUDE ( SUBJAREA , "BIOC" ) OR EXCLUDE ( SUBJAREA , "NURS" ) OR EXCLUDE ( SUBJAREA , "EART" ) OR EXCLUDE ( SUBJAREA , "CENG" ) OR EXCLUDE ( SUBJAREA , "MATE" ) OR EXCLUDE ( SUBJAREA , "PHYS" ) OR EXCLUDE ( SUBJAREA , "DENT" ) OR EXCLUDE ( SUBJAREA , "IMMU" ) OR EXCLUDE ( SUBJAREA , "CHEM" ) ) OR EXCLUDE ( SUBJAREA , "VETE" ) ) AND ( LIMIT-TO ( DOCTYPE , "ar" ) OR LIMIT-TO ( DOCTYPE , "re" ) OR LIMIT-TO ( DOCTYPE , "cp" ) ) AND ( LIMIT-TO ( LANGUAGE , "English" ) )
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3. Data analysis

In order to achieve the purpose of the research and find the answers to the proposed questions, a series of analyses were carried out for the database with the selected papers. The software applications used in data analysis are VOSViewer and WordStat/Provalis. The results will be presented next.

Annual Productivity: the evolution in time of the interest for bibliometric analysis in the investigation of marketing-related topics.

A first step to understanding how the interest in the bibliometric analysis of marketing concepts has evolved is the analysis of the quantitative evolution of the number of papers written on this topic over time. This evolution is presented in Figure 1.

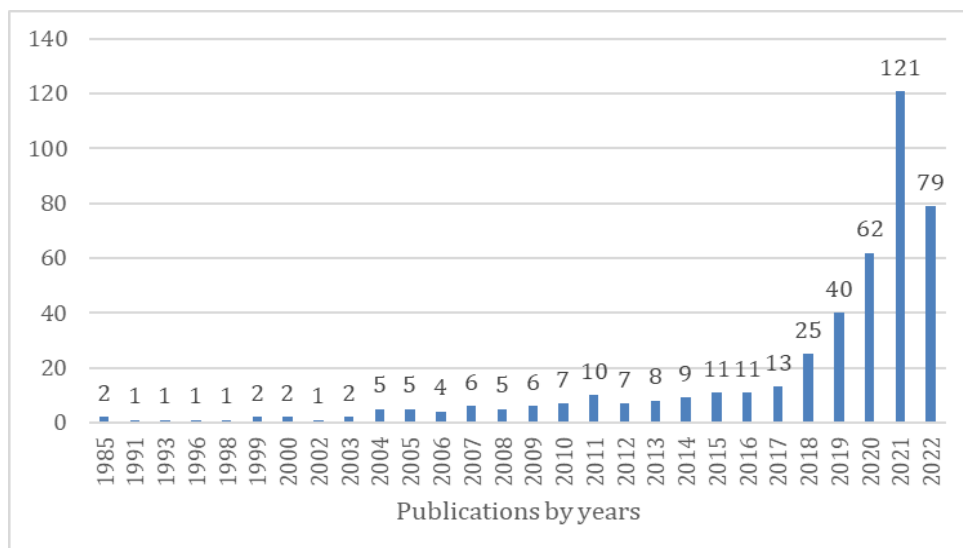


Figure 1: The evolution in time of the interest for bibliometric analysis in the investigation of marketing-related topics.
Source: own representation

It is easy to see in Figure 1 that a significant increase in the interest in the bibliometric analysis of marketing concepts is marked by the year 2018. A significant increase in the number of papers is seen from one year to another, for example, in 2021 the number of papers is almost double than that of 2020. Following the observed trend, it can be estimated that the number of papers in 2022 will be significantly higher than in 2021, the 79 papers represented in the graph for 2022 are only those from the first 5 months of the year, the selection of the papers for the study taking place in May 2022.

Country Productivity and Impact

According to the results of the study, the countries with the highest productivity, evaluated in terms of the number of published papers are the United States of America (87 documents), India (69 documents), Spain (55 documents), the United Kingdom (47 documents) and China (39 documents). Details are presented in Figure 2. From the point of view of impact, measured by the number of citations, the countries with the highest impact of published papers are the United States of America (2474 citations), the United Kingdom (1145 citations), Spain (997 citations), Australia (677 citations) and India (546 citations) (additional details in Figure 3).

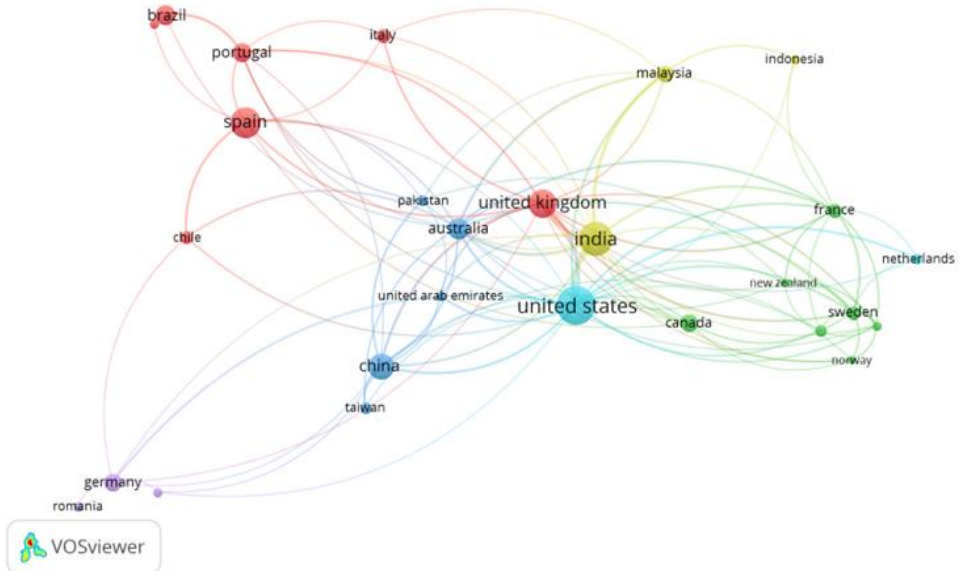


Figure 2: Productivity by country: number of publications.
Source: own representation

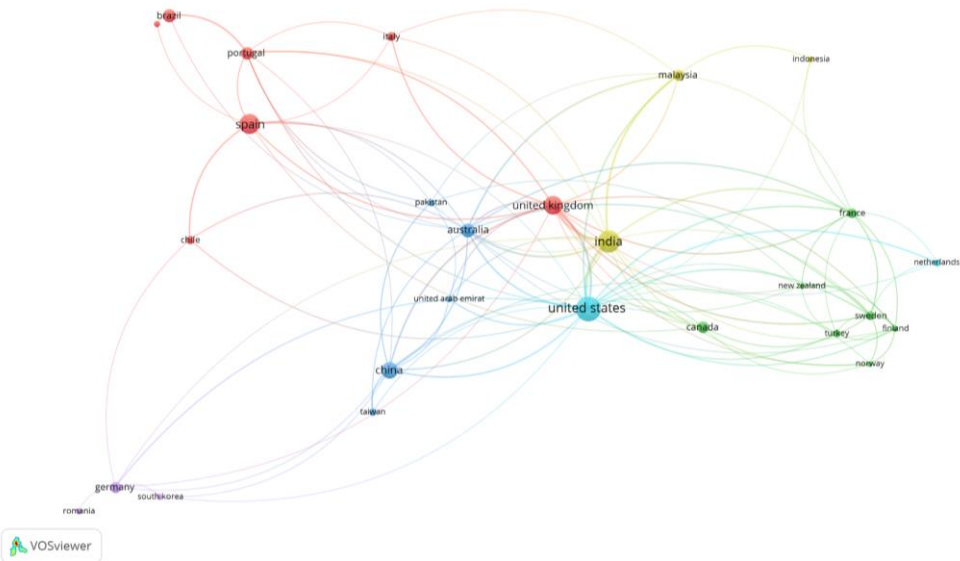


Figure 3: Impact by country: number of citations.
Source: own representation

Journal Productivity and Impact: Number of publications by journal
According to the study, the hierarchy of journals that contain papers presenting bibliometric analysis of marketing topics is:



Figure 4: Productivity by journal: number of papers published.

Source: own representation

From the perspective of the impact measured according to the total number of citations that the papers published in a certain journal have, it is found that the top of the journals with the greatest impact, according to our study, is presented in Table 1. Taking into account the fact that the number of years since publication differs from one article to another, we also calculated an average of citations/year, thus achieving a ranking of journals based on the average number of citations/year. This graph is presented in Figure 5.

Table 1: Impact by journal: Top 10 journals with the most cited articles.

Journal name	Total number of citations
Journal of Business Research	580
European Journal of Marketing	524
Journal of the Academy of Marketing Science	391
Managing Service Quality	383
Industrial Marketing Management	315
Journal of Advertising	284
Scientometrics	263
Journal of Business and Industrial Marketing	157
International Journal of Hospitality Management	141
Journal of International Business Studies	105

Source: own representation

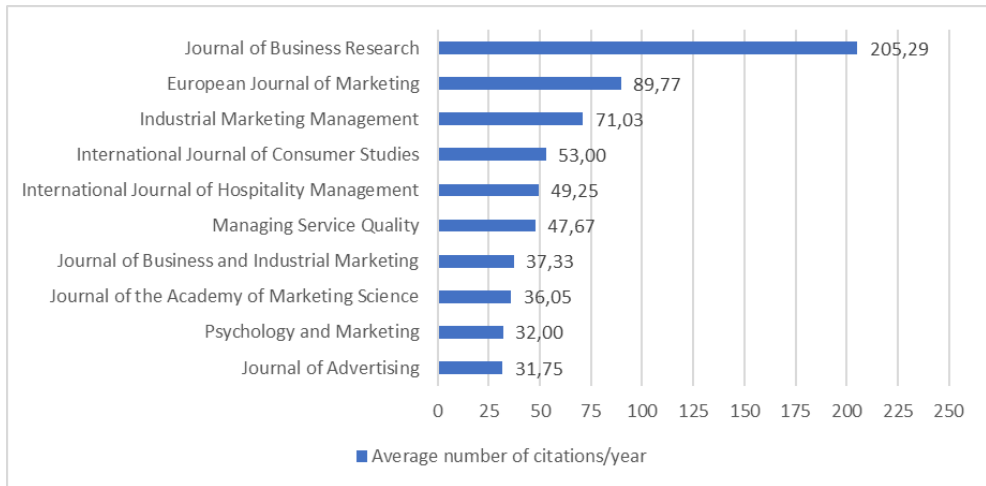


Figure 5: Journal impact based on the average number of citations/year.
Source: own representation

Most significant articles based on the number of citations

In this section of the study, we aimed to highlight the papers with the greatest impact (based on the number of citations), which aim at the bibliometric analysis of concepts in the field of marketing. To achieve this objective, we considered two indicators: the total number of citations obtained by an article and the average number of citations/year obtained by the article (we considered that the papers were published at different times, implicitly the average number of citations/year can be a relevant indicator in measuring the impact).

An overview of the most cited papers was obtained using the VOSviewer application (Figure 6).

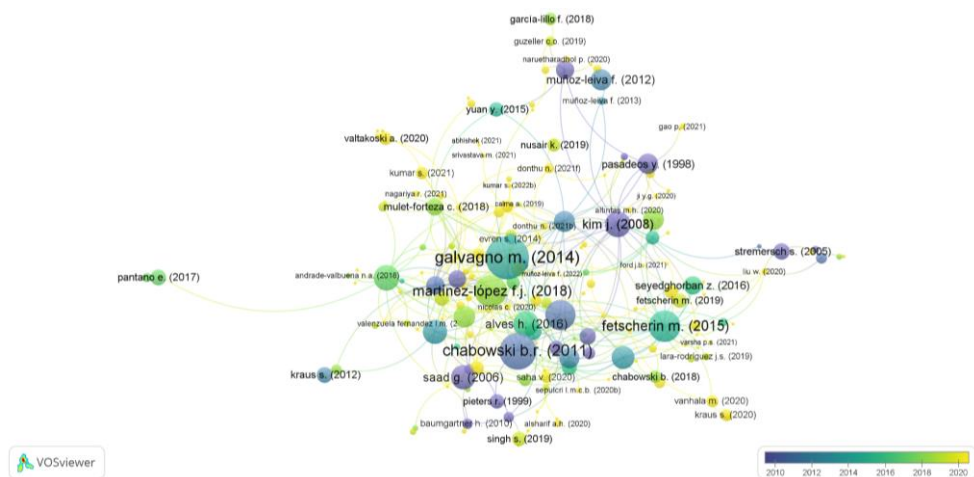


Figure 6: Most cited papers - identified by the first author and the year of publication.

Source: own representation

According to our study, based on the total number of citations obtained, the hierarchy of papers that present bibliometric analysis of concepts in the field of marketing is as follows (Table 2):

Table 2: Top 5 most cited papers: total number of citations.

Title	Authors, Year of publication	Journal	Total number of citations
Theory of value co-creation: A systematic literature review	(Galvagno & Dalli, 2014)	Managing Service Quality	378
The structure of sustainability research in marketing, 1958-2008: A basis for future research opportunities	(Chabowski et al., 2011)	Journal of the Academy of Marketing Science	277
Fifty years of the European Journal of Marketing: a bibliometric analysis	(Martínez-López et al., 2018)	European Journal of Marketing	208
Consumer brand relationships research: A bibliometric citation meta-analysis	(Fetscherin & Heinrich, 2015)	Journal of Business Research	198
Research into environmental marketing/management: A bibliographic analysis	(Leonidou & Leonidou, 2011)	European Journal of Marketing	183

Source: own representation

Taking into account the fact that the papers were published in different years, we considered it relevant to analyse the impact of the papers also based on the average number of citations/year obtained by each article. In terms of the average number of citations/year, the papers with the greatest impact are presented in Table 3.

Table 3: Top 5 most cited papers: based on average number of citations/year.

Title	Authors, Year of publication	Journal	Average number of citations/year
Fifty years of the European Journal of Marketing: a bibliometric analysis	(Martínez-López et al., 2018)	European Journal of Marketing	52
Theory of value co-creation: A systematic literature review	(Galvagno & Dalli, 2014)	Managing Service Quality	47.25

Consumer brand relationships research: A bibliometric citation meta-analysis	(Fetscherin & Heinrich, 2015)	Journal of Business Research	28.28
Thirty years of the Journal of Business & Industrial Marketing: a bibliometric analysis	(Valenzuela et al., 2017)	Journal of Business and Industrial Marketing	26
The structure of sustainability research in marketing, 1958-2008: A basis for future research opportunities	(Chabowski et al., 2011)	Journal of the Academy of Marketing Science	25.18

Source: own representation

Keyword co-occurrence analysis

An important objective of the study is the analysis of the keywords mentioned by the authors, in such a way as to be able to determine which are the most approached marketing concepts investigated using the bibliometric analysis. For a better analysis of the keywords, we created and used a file (VOSviewer thesaurus file) that allows for a unified vision of identical concepts but presented/written differently in the keywords section of the papers. A first analysis in the database using the VOSviewer application led to the identification of 984 keywords, of which only 194 have more than two occurrences. It is noted, first of all, that the most used scientific databases in bibliometric analysis for marketing-related concepts are Scopus (20 occurrences) and Web of Science (17 occurrences), and the most used software applications are VOSviewer (38 occurrences), CiteSpace (8 occurrences), Biblioshiny (6 occurrences), respectively Gephi (5 occurrences).

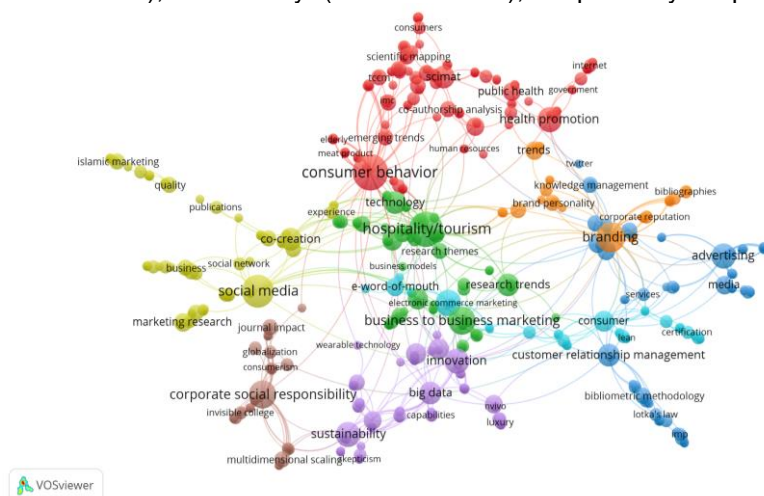


Figure 7: Author keywords co-occurrence.

Source: own representation

This analysis is carried out based on the keywords indicated by the authors. In order to identify the topics of interest in the field of marketing that the authors address in the papers included in the database considered in this study, in the keyword analysis we excluded generic keywords related to bibliometrics and literature review or other methodological aspects related to bibliometric analysis. Consequently, according to our study, the marketing concepts most addressed in bibliometric analysis are presented in Figure 7.

It can be seen in Figure 7 that 8 clusters centered around some key concepts were identified:

Cluster 1 - core concept “consumer behavior”

Cluster 2 - core concepts “hospitality/tourism” and “business to business marketing”

Cluster 3 - core concepts “customer relationship management” and “advertising”

Cluster 4 - core concept “social media”

Cluster 5 - core concepts “sustainability” and “innovation”

Cluster 6 - core concept “digital marketing”

Cluster 7 - core concept “branding”

Cluster 8 - core concept “corporate social responsibility”

The analysis of the keywords indicated by the authors was completed with the analysis of the titles of the papers selected in the database. The WordStat application (Provalis Research) was used for this analysis. The result of the analysis using the WordStat application is presented in Figure 8.



Figure 8: Analysis of paper titles using WordStat/Provalis.
Source: own representation

4. Conclusions

The results of the research highlight the growing interest that the academic world gives to bibliometric analysis for the study of specialized literature specific to marketing concepts. Of the total of 447 papers selected in the database, over 70% were published in the period 2018-2022. This fact highlights the growing interest of specialists in conducting bibliometric analysis in the field of marketing concepts.

According to the results of the study, the journals with the most papers published on the subject of bibliometric analysis

for marketing-related concepts are: Journal of Business Research, Industrial Marketing Management and Journal of Business and Industrial Marketing. From the point of view of the number of citations, the journals with the greatest impact, according to the current research, are the Journal of Business Research, the European Journal of Marketing, the Journal of the Academy of Marketing Science and Industrial Marketing Management. An important objective of the research was to highlight the favorite topics related to marketing that specialists are interested in exploring through bibliometric research. The analysis of the keywords indicated by the authors, together with the analysis of the titles of the papers included in the dataset led to the conclusion that the most addressed marketing topics investigated by means of the bibliometric analysis are from the following categories: consumer behavior, hospitality/tourism, social media, branding, corporate social responsibility, business to business marketing, digital marketing, customer relationship management and sustainability. We consider that the investigation of marketing concepts through bibliometric analysis will continue in the next period, probably moving from the investigation of general concepts to more specific ones.

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