ENERGYTR

RESEARCH ARTICLE

Mapping the Research Landscape of Electric Vehicle and Consumer Perspective: Insights from a Bibliometric Analysis

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ABSTRACT This study uses bibliometric analysis to evaluate the academic literature examining consumer behaviors towards the purchase intention of electric vehicles (EVs). The dataset used a multidimensional keyword combination from the Web of Science (WoS) Core Collection database covering 2015–2025. R-based Biblioshiny (Bibliometrix) and VOSviewer software were used to analyse 936 publications. The findings show that the literature has grown by 14.25% annually, the average number of citations of publications is 32.68, and the studies in this field are at a high level regarding timeliness and impact. Keyword analyses have shown that the literature is thematically concentrated around consumer-based concepts such as "adoption", "attitudes", "consumer preferences", and "willingness-to-pay". According to bibliographic coupling analysis, China, India, and the USA are among the most productive countries in this field, and China has a central position in the literature. Wang S., Axsen J. and Zhao D. stand out among the most influential authors. In the WoS classifications, environmental and transportation-focused categories such as "Transportation", "Environmental Studies", and "Green Sustainable Science and Technology" were determined as dominant themes. As a result, purchasing behavior towards electric vehicles is addressed through a multidisciplinary approach; it is a research field where psychological, environmental, and economic factors are particularly prominent. This study maps the current structure of the field and provides a comprehensive basis that can guide future research.

Keywords
electric vehicles • *sustainability* • *consumer behavior* • *bibliometrix* • *VOSviewer*

Elektrikli Araçlar ve Tüketici Perspektifine Dair Araştırma Alanının Haritalandırılması: Bibliyometrik Analiz Bulguları

ÖZ Bu çalışma, elektrikli araçların (EV) satın alma niyetine yönelik tüketici davranışlarını inceleyen akademik literatürü bibliyometrik analiz yöntemiyle değerlendirmeyi amaçlamaktadır. Çalışmanın veri seti, Web of Science (WoS) Core Collection veritabanından 2015–2025 dönemini kapsayacak şekilde, çok boyutlu bir anahtar kelime kombinasyonu kullanılarak oluşturulmuştur. Toplam 936 yayının analizinde R tabanlı Biblioshiny (Bibliometrix) ve VOSviewer yazılımları kullanılmıştır. Bulgular, literatürde yıllık %14,25 oranında bir büyüme yaşandığını, yayınların ortalama atıf sayısının 32,68 olduğunu ve bu alandaki çalışmaların güncellik ve etki açısından yüksek düzeyde olduğunu ortaya koymaktadır. Anahtar kelime analizleri, literatürün tematik olarak "adoption", "attitudes", "consumer preferences" ve "willingness-to-pay" gibi tüketici temelli kavramlar etrafında yoğunlaştığını göstermiştir. Bibliyografik eşleşme analizine göre Çin, Hindistan ve ABD bu alanda en üretken ülkeler arasında yer almakta olup, Çin literatürde merkezi bir konuma sahiptir. En etkili yazarlar arasında Wang S., Axsen J. ve Zhao D. öne çıkmaktadır. WoS konu sınıflandırmalarında "Transportation", "Environmental Studies" ve "Green Sustainable Science and Technology" gibi çevresel ve ulaşım odaklı kategoriler baskın temalar olarak belirlenmiştir. Sonuç olarak, elektrikli araçlara yönelik satın alma davranışlarının çok disiplinli bir yaklaşımla ele alındığı; özellikle psikolojik, çevresel ve ekonomik faktörlerin ön planda olduğu bir araştırma alanı olduğu görülmektedir. Bu çalışma, alanın mevcut yapısını haritalayarak gelecekteki araştırmalara yön verebilecek kapsamlı bir temel sunmaktadır.

Anahtar Kelimeler
elektrikli araçlar • *sürdürülebilirlik* • *tüketici davranışı* • *bibliometrix* • *vosviewer*

To site this article: Genç-Kavas, H. (2025). Mapping the Research Landscape of Electric Vehicle and Consumer Perspective: Insights from a Bibliometric Analysis. *EnergyTR*, *2*(1), 5–23.

Submitted: 10.10.2024 **Accepted:** 13.04.2025

Introduction

Electric car sales in 2023 increased by 35% (approximately 14 million newly registered) compared to the previous year, bringing the total number on global roads to over 40 million. While this rate constitutes 18% of all cars sold in 2023, it was only 2% in 2018 (IEA, 2024). Despite the high increase in electric vehicles in recent years, a substantial portion of cars, whether passenger or commercial, are fossil-fueled, and the total number of vehicles worldwide is increasing day by day (Melton, Axsen and Sperling, 2016, p. 1). A large part of the production is from internal combustion engine vehicles, which are a significant source of CO_2 emissions (Gönül, Duman and Güler, 2021, p. 1). However, data shows that electric vehicles (EVs) are rapidly beginning to be adopted as part of global sustainability goals. It currently appears as the most promising technology with the potential to transform the transportation and energy landscape to make industry and society more sustainable (Dorcec, Pevec, Vdovic, Babic and Podobnik, 2019, p. 887). Air pollution, especially pollution from motor vehicle emissions, is closely linked to serious health risks, and electric vehicles are much less polluting and much more efficient than vehicles using other fuel types (Chu, Im, Song and Park, 2019, p. 1; Plötz, Funke, Jochem and Wietschel, 2017, p. 1; Sajjad, Chu, Anwar and Asmi, 2020, p. 4).

Unsustainable consumption has created serious environmental problems that encourage and even force societies to consume less, a trend towards green shopping, and to adopt green consumerism with less pollution to improve the physical environment. As smog events increase and more people are exposed to health risks, people are looking for reliable solutions to protect themselves. Consumers are more concerned about the environment, seek more information, and are flexible towards technology to make their societies more sustainable, and they may act with many other motivations such as energy security, energy saving, and combating dependence on foreign oil (Axsen, Goldberg and Bailey 2016, p. 369; Heffner, Kurani and Turrentine, 2007, pp. 411–412; Sajjad et al, 2020, p. 9). It can be observed that factors such as environmental concerns, energy efficiency and reducing dependency on fossil fuels have led to electric vehicles gaining an essential place in the global transportation sector. It can be observed that factors such as environmental concerns, energy efficiency, and reducing dependency on fossil fuels have led to electric vehicles gaining an essential place in the global transportation sector. The adoption of electric cars is significant not only as an environmentally friendly means of transportation but also as an innovation that affects consumer behavior and reshapes market dynamics. While there are advantages in choosing an EV, at the same time, reasons such as high sales prices, lack of charging infrastructure, safety problems in the battery, and varying short and long ranges appear as disadvantages (Jankovic ve Zuhas, 2023, p.156). Behavioral research shows that the reasons and counter-reasons for adopting innovations differ qualitatively and affect consumers' decisions differently. In this context, overcoming the barriers that cause resistance to innovation requires marketing approaches other than strategies to encourage the adoption of new products and services (Claudy, Garcia and O'Driscoll, 2015, p. 528).

The rapid penetration of electric vehicles into the market depends on several factors that shape consumers' purchasing decisions. Consumer behavior is a complex process that affects individual and social levels and is shaped by different psychological and economic dynamics. Unlike traditional internal combustion engine vehicles, electric vehicles offer features such as low emissions, environmentally friendly design, and innovative technology. However, acceptance of these innovations depends on several factors, including consumer perceptions, price sensitivity, range anxiety, environmental concerns and social impacts (Carley, Krause, Lane and Graham, 2013; Chu et al., 2019, p. 4). Planning for the distribution and proliferation of advanced vehicle technologies in the market and possible market adoption scenarios requires the collection and analysis of consumer preference data related to these emerging Technologies (Shin, Bhat, You, Garikapati and Pendyala, 2015, p. 511). In this context, studies on consumer behavior towards EVs have been rapidly increasing globally, in parallel with the increase in EVs on the roads.

For electric vehicles to gain broader acceptance, manufacturers and marketers must develop strategies that appeal to and motivate the target audience's needs and desires. Marketing strategies are among the critical factors that affect consumers' decisions to purchase electric vehicles. In this context, academic studies on consumer purchasing behavior and marketing strategies of electric vehicles provide valuable information for actors in the sector.

This study complements previous bibliometric analysis studies in consumer purchasing trends for electric vehicles and covers the literature obtained from the current Web of Science database, dating back to 2025. The study multidimensionally analyzes the literatüre volume and its thematic evolution, keyword clusters, geographical distribution, and collaborations. Thus, new trends, missing geographical areas, and research gaps in the consumer behavior literature are determined, and both an updated mapping and methodological depth are provided to the literature. In this respect, it is thought that the study contributes to both the academic literature and can be a guide for policymakers and industry actors.

The following research questions emerge in the study:

Q1: *How have academic publications on electric vehicles and consumer purchasing behavior evolved?*
Q2: *Who are the most influential authors in this field, and which countries are most influential?*
Q3: *What are the literature's dominant research themes and keyword clusters?*
Q4: *What is the level of academic collaboration in electric vehicles and consumer behavior, and how is this collaboration distributed internationally?*

Method

Bibliometric analysis is a research approach used to understand global research trends in a specific field, based on the outputs of academic publications obtained from databases, to process large amounts of scientific data, and to produce high research impact (Alsharif, Saleh and Baharun, 2005, p. 2949, Donthu, Kumar, Mukherjee,

Pandey and Lim, 2021, p. 285). Systematic literature mapping provides researchers with a pool of knowledge on this subject. The study dataset was created using the Web of Science (WoS) Core Collection database. It is seen that the Scopus database is preferred for bibliometric analyses conducted on similar topics in the literature (Acar and Taşkın, 2024; Ivanova and Moreira, 2023; Purwanto and Irawan, 2023; Secinaro, Brescia, Calandra and Biancone, 2020). The main reason for this is that Scopus has a broader publication scope in the field of social sciences and contains more literature on interdisciplinary topics such as electric vehicles and consumer behavior. However, WoS was preferred in this study because it has a more selective indexing policy. It provides access to higher impact factor and interdisciplinary publications in the literature. In addition, it allows the analysis of well-established and respected publications. In this direction, the aim is to represent the literature in a more qualitative and focused way that aligns with the study's purpose. R-based Biblioshiny (Bibliometrix) and Vosviewer programs were used for the analysis.

During the literature review process, a comprehensive keyword combination was created to identify publications related to EV purchase intention in the context of consumer behavior. The search was conducted using the "All Fields" option in the Web of Science system, i.e., covering all textual data fields, not just the title and abstract. The combination used is given below:

("electric vehicle*" OR "electric car*") AND ("purchase" OR "purchase intention" OR "buy*" OR "willingness to pay" OR "reluctance to pay") AND ("customer" OR "consumer" OR "behavior*") AND ("attitude" OR "adoption" OR "acceptance" OR "decision-making" OR "perception" OR "barriers" OR "constraints" OR "trust")

The keywords used in the literature review were structured to represent both electric vehicles (EVs) / electric cars and consumer purchasing behavior in a multidimensional way. In this context, various terms were determined under four main categories. First, the terms "electric vehicle*" and "electric car*" were used for electric vehicles, which are the primary focus of the research. The plural and different forms of these terms were also included in the scope of the review with the (*) character. The second group included various expressions reflecting purchasing behavior: "purchase", "purchase intention", "buy*", "willingness to pay", and "reluctance to pay". These expressions were selected to capture direct purchasing intentions and more subtle behavioral orientations such as willingness or reluctance. The third category focused on consumer identity and behavior. This group included general behavioral terms such as "customer", "consumer", and "behavior*". Finally, a broad conceptual framework has been created covering psychological and environmental factors affecting purchasing decisions. Concepts such as "attitude", "adoption", "acceptance", "decision-making", "perception", "barriers", "constraints", and "trust" have been addressed in this context. This selection aims to holistically analyze factors such as attitude, perception, trust, willingness to adopt, and obstacles that affect consumers' EV purchasing intentions. This multi-layered query was designed to include technical, psychological, sociological, economic, and managerial variables related to EV purchasing behavior. The obtained publications were then filtered according to publication type and year criteria and

included in the analysis. Since electric vehicles are an interdisciplinary subject and the keyword combination is very detailed, subject era categorization was not performed. No categorization was performed in the language filter either, and it was observed that 935 of the 936 articles found were in English and one was in Russian (Table 1).

Table 1
Searching Filter

Filter	Description
All Fields	("electric vehicle*" OR "electric car*") AND ("purchase" OR "purchase intention" OR "buy*" OR "willingness to pay" OR "reluctance to pay") AND ("customer" OR "consumer" OR "behavior*") AND ("attitude" OR "adoption" OR "acceptance" OR "decision-making" OR "perception" OR "barriers" OR "constraints" OR "trust")
Record Contend	Full record and cited references
Publication Years	2015-2025
Document Types	Article or Review article
Language	No limitation
Web of Science Categories	No limitation

Findings and Discussion

Q1: *How have academic publications on electric vehicles and consumer purchasing behavior evolved?*

Table 2
Main Information about Data

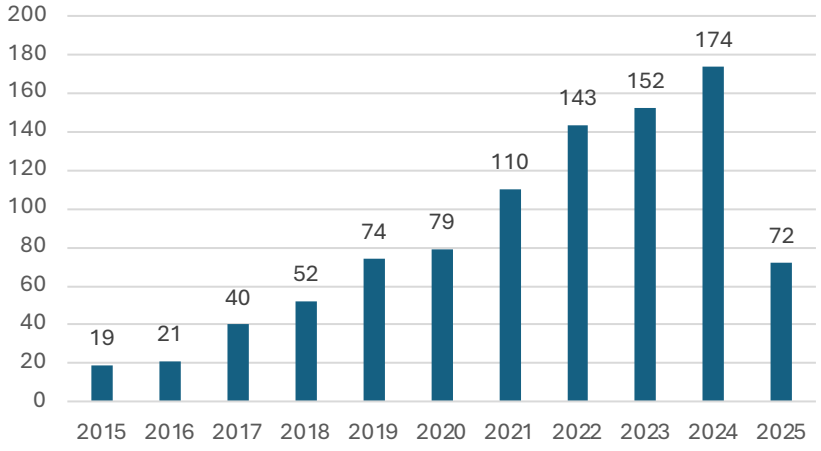
Description	Results
Timespan	2015:2025
Sources (Journals, Books, etc)	246
Documents	936
Annual Growth Rate (%)	14,25
Document Average Age	3,47
Average citations per doc	32,68
References	36242
Document Contents	
Keywords Plus (ID)	1298
Author's Keywords (DE)	2470
Authors	
Authors	2434
Authors of single-authored docs	46

Authors Collaboratıon	
Single-authored docs	47
Co-Authors per Doc	3,44
International co-authorships (%)	27,46
Document Types	
Article	872
Article (Book chapter)	5
Article (Early Access)	20
Article (Proceedings paper)	2
Review	36
Review (Early access)	1

Source: Biblioshiny analysis

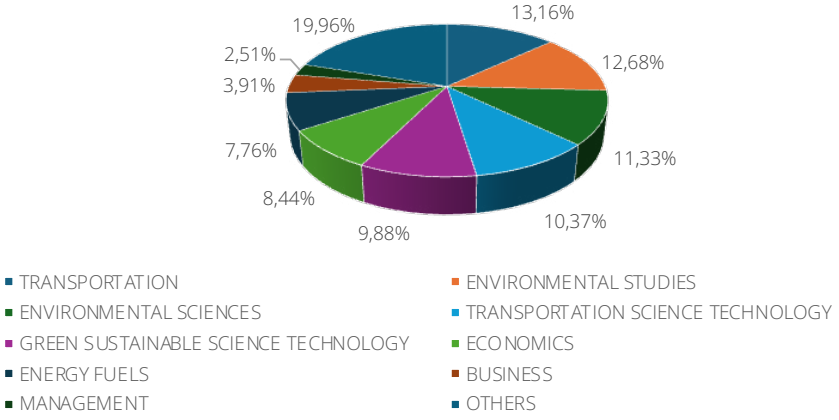
When the development of the literature over the years is examined (Table 2), a significant growth is observed with a total of 936 documents covering the period 2015–2025. The annual increase rate of these documents is calculated as 14.25%, which reveals that academic interest in electric vehicles and consumer behavior is increasing. The average age of the papers is 3.47 years, indicating that the field is relatively young and one of the current research topics. In addition, the average number of citations in the studies was determined to be 32.68, which indicates that both the visibility and academic impact of the publications in the literature are high. Two thousand four hundred thirty-four different authors contributing to the studies were identified. Only 47 of the documents have a single author, while the vast majority have a multi-author structure; the average number of authors per document was calculated as 3.44. This situation shows that interdisciplinary and team-based studies on electric vehicles and consumer behavior are common. In addition, 27.46% of the studies include international co-authorship, which reveals that academic collaboration exists at a significant level globally. In the keyword analysis to reveal the dominant themes in the literature, 2,470 author keywords and 1,298 Keywords Plus tags were identified. When the distribution of 936 academic publications analyzed within the scope of the study is examined according to their types, it is seen that most of them are research articles (n = 872). This situation shows that original empirical or theoretical studies dominate the EV and consumer behavior literature and that knowledge production in the field is primarily based on primary research. In addition, review articles (n = 36) also show that specific topics are systematically addressed in the literature and that theoretical frameworks are gradually consolidating. Reviews can significantly contribute to conceptual clarity, especially in understanding complex consumer behavior. The number of articles with the early access tag is 21 (20 research articles + 1 review), which shows that the field shows great interest in current and developing issues. On the other hand, other types, such as book chapters (n = 5) and conference papers (n = 2), were relatively limited. This indicates that scientific knowledge in EV and consumer behavior is primarily disseminated through peer-reviewed journals, with conference or book-based publications remaining secondary.

Figure 1.
Annual Scientific Production



Source: Biblioshiny analysis

Figure 2.
Percentile of Scientific Areas

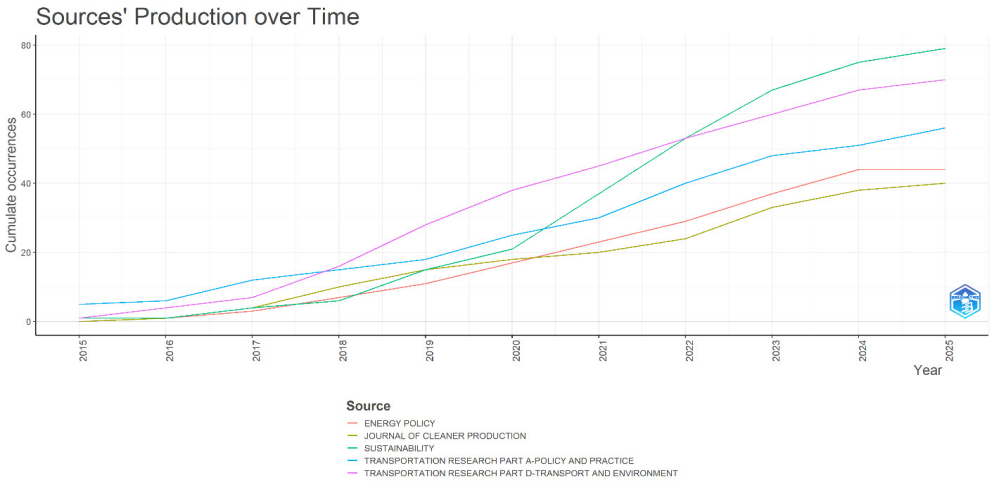


Source: Biblioshiny analysis

Although 936 articles were identified due to the keyword combination, 2074 category records were obtained when the WoS subject categories in which these articles were classified were counted. This shows that each study was classified into 2.2 different categories on average. This difference is due to multiple classifications, such as an article in the "Transportation" and "Environmental Studies" categories. Such various assignments, such as in the case of the study on electric vehicles and consumer behavior, become more apparent with the increase in interdisciplinary research, and reflect the impact and contribution of the relevant survey to different academic fields.

When the proportional distribution is examined (Figure 2), the categories "Transportation" (13.16%) and "Environmental Studies" (12.68%) stand out. This reveals that studies on the purchasing behavior of electric vehicles are addressed mainly within the framework of transportation policies and environmental sustainability. When considered together with environmentally focused categories such as "Environmental Sciences" (11.33%) and "Green Sustainable Science and Technology" (9.89%), it can be understood that consumer behavior towards electric vehicles is intensively researched not only from an economic perspective but also from an environmental awareness and sustainability perspective. In addition, the high rates of the "Economics" (8.44%) and "Energy Fuels" (7.76%) categories indicate that economic factors affecting consumer intentions and concerns about energy transformation also have a prominent place in the literature. In this context, electric vehicle purchasing decisions stand out as a multi-dimensional research area where environmental values, technological acceptances, and economic conditions are evaluated.

Figure 3.
Sources' Production over Time



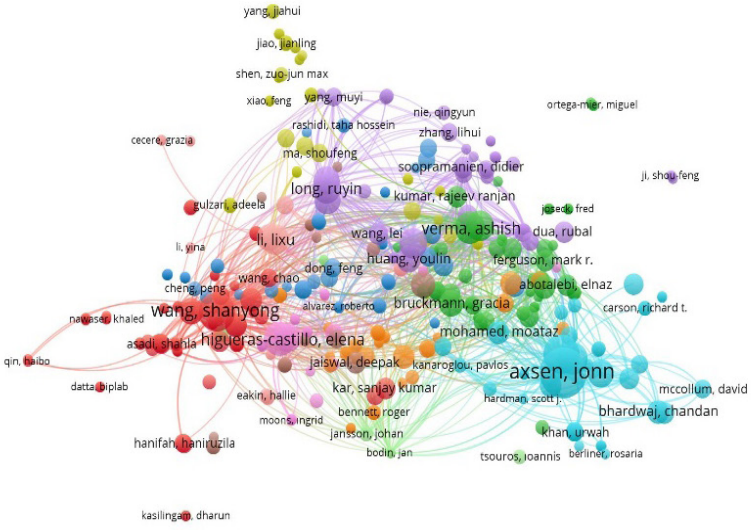
Source: Biblioshiny analysis

The distribution of studies on purchasing behavior and consumer trends of electric vehicles by year shows that the field is receiving increasing attention. The data in Figure 3 reveal the trend of the number of relevant articles published in five important academic journals between 2015 and 2024 (Energy Policy, Journal of Cleaner Production, Sustainability, Transportation Research Part A: Policy and Practice, Transportation Research Part D: Transport and Environment). While there were only a limited number of publications (7 in total) in these journals in 2015, this number reached 275 publications by 2024. The growth observed in the Sustainability journal is particularly striking. The number of publications, only 1 in 2015, has increased approximately 75 times, reaching 75 in 2024. This trend reflects the increasing importance of the sustainability perspective in the context of electric vehicles. Similarly,

a significant increase is observed in the Transportation Research Part D journal, which focuses on studies relating environmental impacts to transportation policies. While there was only one publication in this journal in 2015, this number increased to 67 as of 2024. The Transportation Research Part A journal has steadily increased until 2024, reaching 51 publications annually. A similar growth trend is observed in more technical and policy-oriented journals such as Energy Policy and Journal of Cleaner Production. Both journals had either no or minimal publications in 2015, but by 2024, they had 44 and 38 publications, respectively. This shows that energy policies and the transformation of production-consumption systems are increasingly becoming the subject of research in the context of consumer behavior.

Q2: *Who are the most influential authors in this field, and which countries are most influential?*

Figure 4.
Citation Author Analyses



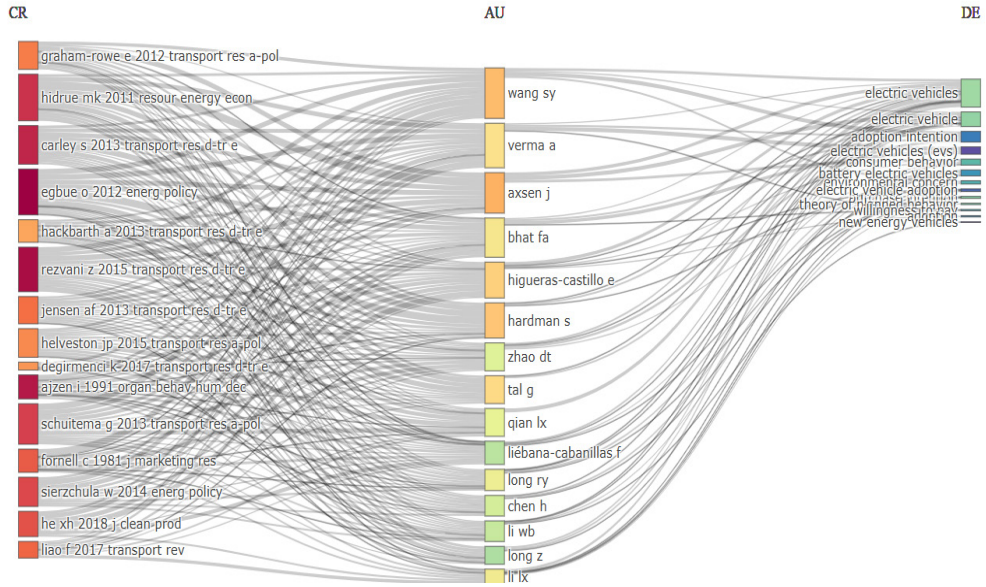
Source: VOSviewer Analysis

The most cited author analysis (Figure 4) identified authors with a high influence in the electric vehicle and consumer behavior literature. According to the results, the first eight authors who stand out in terms of both the number of direct citations and the total link strength and make practical contributions to the field are "Wang, S.", "Axsen, J.", "Zao, D.", "Li, J.", Jansson, J.", "Higueras-Castillo, E.", "Qian, L." and Verma, A.". In particular, Shanyong Wang contributed 13 documents and these publications received a total of 1628 citations, reaching the highest number of citations. In addition, the total link strength (TLS) value is 776, which indicates that the author has a strong bibliographic relationship network with other researchers in the field. This metric reveals that Wang not only has a high number of citations but also is a central figure frequently cited in the literature. John Axsen, despite being one of the

authors who produced the most documents with 22 publications, fell behind Wang with 978 citations, but still exhibited a powerful network appearance with a TLS value of 629. His studies, especially on the adoption of electric vehicles, consumer behavior, and sustainable transportation policies, have had a significant impact on the literature (Axsen et al., 2016; Kormos, Axsen, Long and Goldberg, 2019; Axsen and Wolinetz, 2018; McBain, Axsen and Wilson, 2023). Dingtao Zhao, on the other hand, has achieved a remarkable citation/publication ratio by receiving 1088 citations with only six publications. Zhao, whose TLS value is 480, has been frequently cited by other researchers, especially for his methodological contributions and modeling-based (planned behavior) studies. When his studies are analyzed, there is also an intensive collaboration with Wang (Wang, Fan, Zhao, Yang and Fu, 2016; Wang, Li and Zhao., 2017). Authors such as Li Jun, Jonsson Johan, Higueras-Castillo Elena, Qian Lixian, and Verma Ashish, who are further down the list, have also made significant contributions to research in the field in terms of both citation and network connectivity. Jansson Johan, in particular, has displayed an impressive academic presence, receiving 994 citations despite appearing in only two publications (Jansson, Nordlund and Westin, 2017; Rezvani, Jansson and Bodin, 2015).

Figure 5.

Tree Field Plot



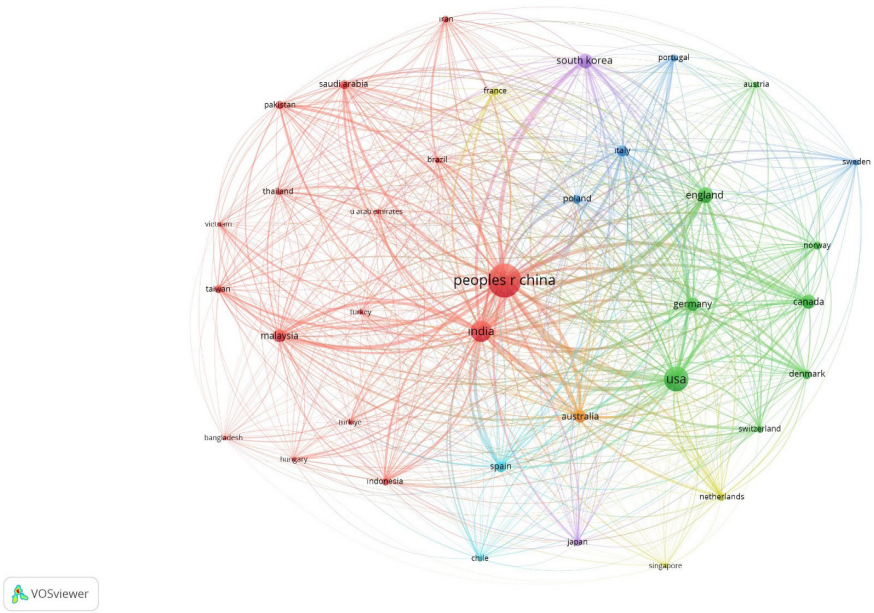
Source: Biblioshiny Analyse

According to the three-field plot created to map the knowledge structure in the field, the multi-field relationship can be seen in Figure 5. The first column represents “cited references”, the second column represents “authors”, and the third column represents “descriptives”. In this case, the graph, which authors (AU) cited, which sources (CR), and which keywords are associated with these citations and authors, a general mapping

was made with the top 15 CR, AU, and DE. Accordingly, the most popular authors are Wang S.Y., Verma A., Axsen J., Bhat F.A, Higueras-Castillo E. and Hardman S.. Egbue O (2012), Rezvani et. al. (2015), Hidrue, Parsons, Kempton and Gardner (2011), Schuitema, Anable, Skippon and Kinnear (2013) are the works that authors refer to. The most frequently used keywords in these studies from top to bottom are (DE) "electric vehicles" (electric vehicle, electric vehicle (evs), battery electric vehicles), "adoption intention", "consumer behavior", "environmental concern", electric vehicle adoption", "purchase intention", "theory of planned behavior". The flow of information seen in the graph shows how the production and transfer of information in the literature is shaped. In particular, the frequent reference to specific citation sources (CR) by authors (AU) reveals that these studies are a central source of information in the field. Studies frequently cited by authors also shape the literature's focal points and the theoretical framework structures of knowledge production. When the keywords are evaluated, it is seen that the purchasing behavior towards electric vehicles is mainly examined in the context of cognitive and behavioral studies in the literature. This situation reveals that studies in the field are considered in technological and socio-psychological frameworks.

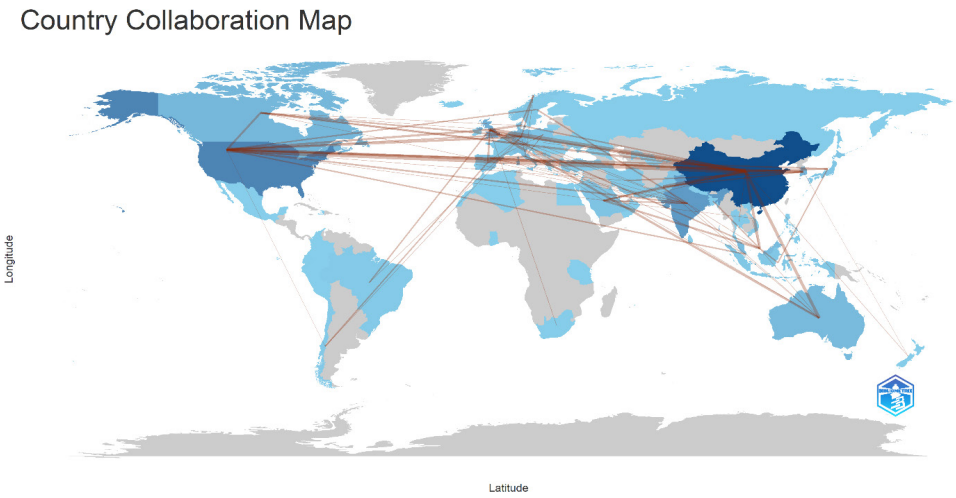
Figure 6

Bibliographic Coupling Countries



Source: VOSviewer Analysis

Figure 7
Country Collaboration Map

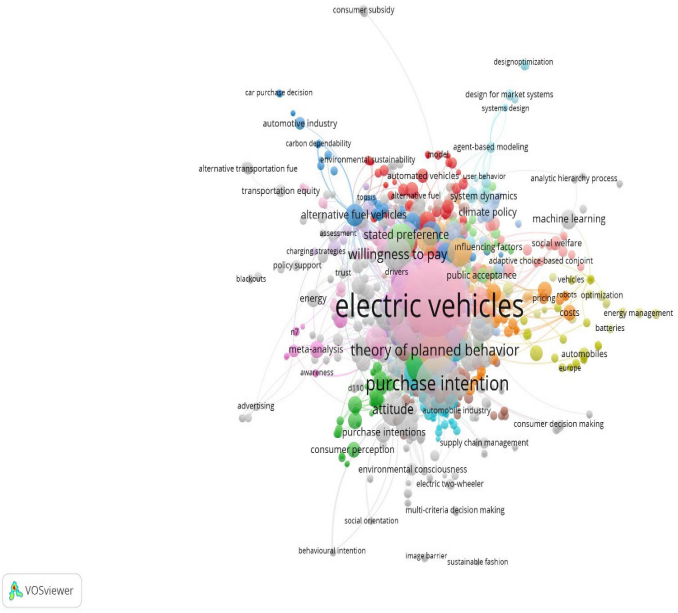


Source: Biblioshiny Analysis

According to the bibliographic coupling analysis (Figures 6 and 7), countries such as China, India, the USA, the UK, Canada, Australia, Malaysia, and Spain stand out among the countries that provide the most academic output in the electric vehicles and consumer behavior literature. China, which has the highest number of documents (274), citations (9,414), and total link strength (402,201), is the leader in this field in terms of both productivity and network centrality. China's studies are numerically and highly matched with other countries' literature, reinforcing its central role in the global literature. India ranks second with 110 publications and 273,358 link strengths; it presents a research profile based on similar source clusters, especially by exhibiting high bibliographic couplings with China. This situation reveals that research activities centered in Asia tend to cluster in the literature. The United States of America (USA) has both high productivity and 204,346 link strengths with 157 publications and 5,540 citations. Although far behind in total publication numbers, the UK, Canada, and Australia stand out with their high link strength and citation levels. Although represented by relatively few publications, countries such as Malaysia and Spain show a high level of bibliographic coupling. This indicates that research in these countries is tightly integrated with existing international literature, producing publications compatible with global research dynamics. The analysis shows that the literature is globally concentrated around China, India, and the USA, but English-speaking countries and some emerging research centres are also effectively integrated.

Q3: *What are the literature's dominant research themes and keyword clusters?*

Figure 8
Keywords



Source: VOSviewer Analysis

The co-occurrence network analysis of keywords (Figure 8) shows that the most central and interrelated keywords in the literature are "electric vehicles", "purchase intention", "theory of planned behavior", "willingness to pay", "stated preferences", "attitude", "stated preference" and "alternative fuel vehicles". These terms have become dominant nodes of the network not only because of their frequency of use but also because of the strong connections they establish with other key concepts. The term "electric vehicles" is central to the research area, with the highest density of connections. The prominence of the terms "purchase intention", "willingness to pay," and "attitude" shows that the studies largely focus on individual behavioral and psychological factors in the process of adopting electric vehicles. In addition, the frequent presence of theoretical and methodological themes such as "theory of planned behavior" (Ajzen, 1991, p. 181) and "stated preferences" reveals that cognitive and behavioral methods shape the literature. This shows that studies on consumer behavior are based on a strong foundation, both theoretically and practically empirically.

Table 3

Co-Word Network Results

Node	Cluster	Betweenness	Closeness	PageRank
adoption	1	60,936	0,02	0,072
attitudes	1	16,988	0,02	0,044
consumer preferences	1	17,498	0,019	0,042
willingness-to-pay	1	14,579	0,02	0,038
incentives	1	10,901	0,02	0,038
impact	1	5,799	0,02	0,028
purchase	1	9,352	0,02	0,031
barriers	1	5,579	0,02	0,026
demand	1	2,426	0,018	0,023
choice	1	4,009	0,02	0,024

Source: Biblioshiny analysis

In the Co-Word analysis conducted with Biblioshiny (Table 3), the concept of "adoption" stands out as the most critical term in the literature in terms of both its structural centrality and function as a bridge between concepts. High Betweenness, Closeness, and PageRank values show that this concept is frequently used in the literatüre and plays a connecting role between other concepts. Concepts such as "attitudes", "consumer preferences", and "willingness-to-pay" can be defined as basic subtopics that support and explain the theme of "adoption". The fact that the entire network belongs to a single cluster (Cluster 1) reveals that the research area has a very thematically integrated structure. The focus is generally on adopting electric vehicles at the consumer level.

Figure 9
Treemap Analyses

Source: Biblioshiny analysis

The frequency, ratio, and volume of the themes used in the studies can be seen in the complete article-based treemap analysis (Figure 9). According to the rectangle size, "Adoption" (as seen in Table 3) is the most dominant theme in the literature. Considering the frequency of these terms and their visual representation dimensions, it is seen that the research primarily focuses on consumer-level decision-making processes and adoption behavior. "Attitudes" and "consumer preferences" are fundamental concepts in understanding individuals' perceptions and choice tendencies towards electric vehicles. This situation reflects the effect of individual psychological factors on technological adoption. The frequent use of the term "willingness-to-pay" may indicate that economic dimensions, especially price, cost advantage, and willingness to pay, are essential in research. This also shows that consumer behavior is based not only on environmental factors but also on rational and economic motivations (Sun, Yuan, Xu, 2016). The concepts of "incentives" and "preferences" reveal the role of public policies and incentive tools (e.g., tax breaks, subsidies) in shaping consumer decisions (Hackbarth and Madlener, 2016, p. 104). This may indicate that government support and regulatory frameworks have a significant impact on the development of the electric vehicle market. The term "behavior" is the common denominator of all these concepts.

Conclusion

This study systematically presents the current knowledge structure and research trends in the field by examining the academic literature focusing on consumer behavior in the context of the purchase intention of electric vehicles using the bibliometric analysis method. The most productive authors, countries, and themes that contributed the most were supported by maps created with VOSviewer and Biblioshiny, and the intellectual and geographical structure of the field was detailed through these network structures. Analyses of 936 academic publications obtained from the Web of Science database have shown that this area of research is increasingly popular and has an interdisciplinary structure. In particular, concepts such as "adoption", "attitudes", "consumer preferences," and "willingness-to-pay" have emerged in the literature as fundamental themes shaping consumer decisions. This study, which discusses studies published between 2015 and 2025, shows that academic production accelerated in 2017 and made a leap after 2020 (Figure 3).

The fact that most publications are multi-authored and based on international collaboration shows that the subject is of global importance and is shaped by collective research efforts. While Asian and Anglo-Saxon countries, especially China, India, the USA and the United Kingdom, stand out as significant production and connection centers in the literature, names such as Wang, Axsen and Zhao stand out among the highly cited authors.

The spread of research outputs to multidimensional areas such as environmental sustainability, transportation policies, energy transformation, and consumer psychology shows that purchasing behaviors towards electric vehicles are not only a technological transformation but also a complex process shaped by the interaction of socio-economic and psychological dynamics. In other words, the literature is shaped by cognitive and behavioral methods. This shows that studies on consumer behavior are based on a theoretical and empirical foundation.

The study's limitations include using only the Web of Science (WoS) Core Collection database, the period covering the last 11 years, and the language of the studies being English. To scan the literature comprehensively, researchers can expand their use of multi-source bibliometric analyses by integrating different databases in future studies. Non-English studies are not visible in the dataset. This can lead to inadequacy in understanding trends both regionally and globally. The study's findings provide theoretical and methodological rich ground for future research. At the same time, it creates a comprehensive information map that can be useful for policymakers, the automotive industry, and marketing experts in their decision-making processes.

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