Anadolu Kültürel Araştırmalar Dergisi
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Bibliometric Analysis of Dynamic Pricing[1]

Dinamik Fiyatlandırmanın Bibliyometrik Analizi

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Abstract

Dynamic pricing has become one of the most influential pricing strategies for enhancing firms' marketing performance and revenue optimization. It is widely adopted across industries such as airlines, hospitality, e-commerce, and energy markets, enabled by digital technologies that allow firms to adjust prices in real time based on demand, inventory levels, and competitive conditions. This study conducts a comprehensive bibliometric analysis of global research on dynamic pricing in order to identify the intellectual structure, research trends, and key contributors within the field. Using the search term "dynamic pricing", publications indexed up to 2023 were retrieved from Web of Science, ScienceDirect, and Google Scholar. After applying systematic screening criteria- removal of duplicates, non-English documents, books, book chapters, editorials, letters, and non-research material- a final sample of 985 peer-reviewed research articles was analyzed. Bibliometric techniques, including citation analysis, co-citation analysis, and keyword co-occurrence analysis, were applied using the bibliometrix package in RStudio and VOSviewer. The findings reveal major publication trends, influential authors, leading countries, prominent journals, and dominant research themes in dynamic pricing research. The study contributes by offering a structured overview of the evolution of dynamic pricing literature and provides practical implications for practitioners as well as directions for future academic research.

Keywords: *Dynamic pricing, bibliometric analysis, demand response*

Öz

Dinamik fiyatlandırma, firmaların pazarlama performansını artırmak ve gelir optimizasyonu sağlamak amacıyla kullanılan en etkili fiyatlandırma stratejilerinden biri hâline gelmiştir. Talep, stok seviyeleri ve rekabet koşullarına bağlı olarak fiyatların gerçek zamanlı biçimde ayarlanmasına olanak tanıyan dijital teknolojiler sayesinde; havayolu taşımacılığı, konaklama, e-ticaret ve enerji piyasaları gibi sektörlerde yaygın olarak benimsenmektedir. Bu çalışma, dinamik fiyatlandırma alanındaki küresel araştırmaları incelemek amacıyla alanın entelektüel yapısını, araştırma eğilimlerini ve temel katkı sağlayan aktörleri belirlemek üzere kapsamlı bir bibliyometrik analiz gerçekleştirmektedir. "Dynamic pricing" arama terimi kullanılarak 2023 yılına kadar Web of Science, ScienceDirect ve Google Scholar veri tabanlarında indekslenen yayınlar derlenmiştir. Sistematik tarama kriterlerinin — yinelenen çalışmaların, İngilizce olmayan dokümanların, kitapların, kitap bölümlerinin, editöryal yazıların, mektupların ve araştırma niteliği taşımayan materyallerin çıkarılması — uygulanmasının ardından, nihai olarak 985 adet hakemli araştırma makalesi analiz edilmiştir.Atıf analizi, eş-atıf (co-citation) analizi ve

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anahtar kelime eş-oluşum (co-occurrence) analizi dâhil olmak üzere çeşitli bibliyometrik teknikler, RStudio ortamında bibliometrix paketi ve VOSviewer yazılımı kullanılarak uygulanmıştır. Bulgular; yayın eğilimlerini, etkili yazarları, önde gelen ülkeleri, seçkin dergileri ve dinamik fiyatlandırma araştırmalarındaki baskın temaları ortaya koymaktadır. Çalışma, dinamik fiyatlandırma literatürünün gelişimine ilişkin yapılandırılmış bir genel çerçeve sunarak uygulayıcılar için pratik çıkarımlar sağlamakta ve gelecekteki akademik araştırmalar için yönlendirici öneriler sunmaktadır.

Anahtar Kelimeler: *Dinamik fiyatlandırma; bibliyometrik analiz; talep tepkisi*

1. INTRODUCTION

Dynamic pricing is widely recognized as one of the most effective pricing strategies for increasing firms' marketing-related profitability. A substantial body of literature has examined dynamic pricing from multiple perspectives, including revenue management, consumer behavior, inventory control, and algorithmic pricing (Goli & Haghighinasab, 2022). The growing adoption of dynamic pricing across industries such as airlines, hotels, e-commerce platforms, and energy markets reflects its strategic importance in highly competitive and data-intensive environments.

Advancements in digital technologies and real-time data analytics enable firms to continuously adjust prices based on factors such as remaining inventory, time sensitivity, competitor pricing, and observed demand patterns (Chenavaz et al., 2011). For example, airline companies often adjust ticket prices dynamically depending on seat availability and departure time. When a flight date approaches and excess capacity remains, airlines may offer discounted fares to stimulate demand and reduce unsold inventory.

Dynamic pricing can be defined as a pricing strategy that involves frequent temporal price adjustments in response to changing market conditions, with the objective of aligning supply and demand in real time. According to Dasci and Huang (2017), dynamic pricing constitutes a core tool of revenue management systems. Kramer, Friesen, and Shelton (2017) further argue that dynamic pricing is an integral component of many revenue management (RM) frameworks.

Revenue management is commonly defined as allocating the right capacity to the right customer, at the right price, at the right time, and through the right distribution channel in order to maximize revenue or yield (Kimes, 2010; Hayes & Miller, 2011; Anderson & Xie, 2010). From this perspective, dynamic pricing represents one of the most influential mechanisms through which revenue management objectives are achieved.

Previous research has categorized revenue management studies into three main streams: descriptive studies examining RM applications across industries, pricing control research, and inventory control research (Kimes, 2003). Within this framework, dynamic pricing emerges as a dominant research theme due to its direct impact on revenue optimization and customer behavior. Furthermore, research by Levin et al. (2009) highlights the complexities of dynamic pricing in competitive environments, particularly for online retailers.

Despite the growing volume of research on dynamic pricing, a systematic overview of its intellectual structure and evolution remains limited. Therefore, the purpose of this study is to conduct a bibliometric analysis of the dynamic pricing literature in order to: (1) identify the primary journals publishing dynamic pricing research; (2) determine the most influential authors in the field; (3) examine country-level research contributions; and (4) analyze the evolution and clustering of frequently used keywords.

2. METHODOLOGY

2.1 Research Design

This study employs a bibliometric analysis, a quantitative and systematic approach for examining large bodies of scientific literature. Bibliometric methods are widely used to identify research trends, collaboration patterns, and the intellectual structure of academic fields (Liu et al., 2019; Donthu et al., 2021). Following the guidelines proposed by Donthu et al. (2021), this study integrates descriptive analysis, citation analysis, co-citation analysis, and keyword co-occurrence analysis.

2.2 Data Sources and Search Strategy

Data were collected from three major academic databases: Web of Science, ScienceDirect, and Google Scholar. The inclusion of Google Scholar alongside traditional databases ensures a comprehensive coverage of the discipline, as supported by comparative studies on database coverage (Harzing & Alakangas, 2016). The search query "dynamic pricing" was applied to titles, abstracts, and keywords. The time span covered publications from 1976 to 2023.

The initial search yielded a total of 6,367 documents, distributed as follows:

Web of Science: 2,516 documents

ScienceDirect: 671 documents

Google Scholar: 3,180 documents

2.3 Screening and Selection Process

A multi-stage screening process was applied to ensure methodological rigor and relevance:

Initial Filtering: Duplicate records were removed across databases. Non-English documents, books, book chapters, book reviews, editorials, letters, and documents without academic relevance were excluded. After this step, 5,382 documents remained.

Title and Abstract Screening: Titles and abstracts were reviewed to assess relevance to dynamic pricing as a research topic. Studies that merely mentioned dynamic pricing without analytical or empirical focus were excluded.

Full-Text Eligibility Assessment: Only peer-reviewed research articles and review papers with explicit analytical, empirical, or theoretical contributions to dynamic pricing were retained.

After completing all screening stages, the final dataset consisted of 985 research articles, including:

757 articles from Web of Science

89 articles from ScienceDirect

139 articles from Google Scholar

This systematic selection process ensures transparency and replicability, in line with established bibliometric research practices (Donthu et al., 2021).

2.4 Analytical Tools

Bibliometric analysis was conducted using RStudio and the bibliometrix package (Aria & Cuccurullo, 2017). Network visualizations, including keyword co-occurrence and collaboration networks, were generated using VOSviewer.

2.5 Limitations of the Study

Despite its comprehensive scope, this study has several limitations. First, the reliance on the search term "dynamic pricing" may exclude relevant studies using alternative terminology. Second, only English-language publications were included, potentially omitting valuable research in other languages. Third, bibliometric methods emphasize publication and citation patterns rather than in-depth content analysis. These limitations should be considered when interpreting the results.

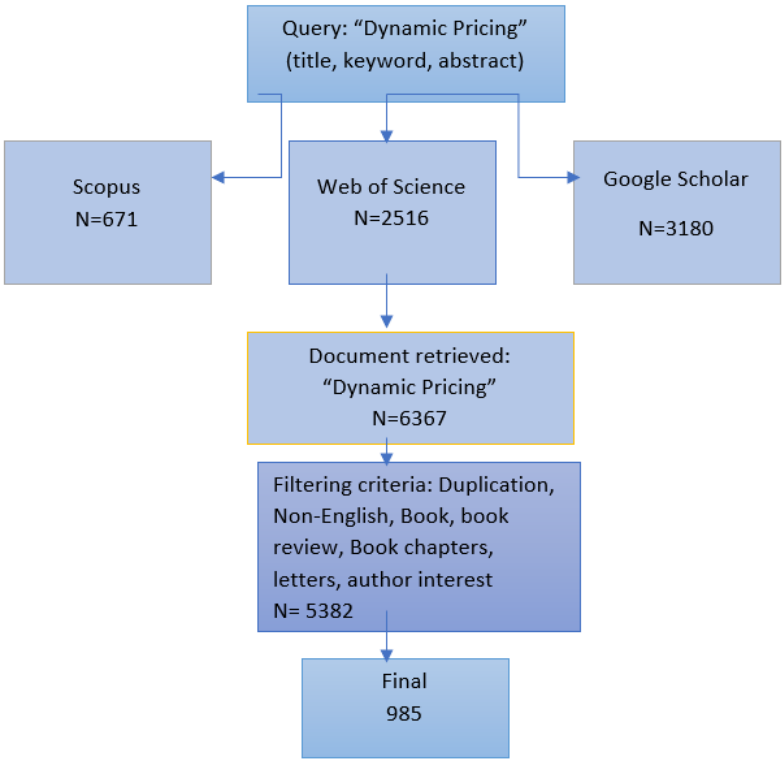

Figure 1. Article Selection Process

Ethics Committee Approval

Throughout this research, including the preparation of the conceptual framework, data collection, analysis, and interpretation, all ethical rules have been strictly adhered to. The ANKAD Editorial Board bears no responsibility for any ethical violations that may arise. All responsibility lies with the author. I hereby declare that this work has not been submitted for evaluation to any academic publication medium other than ANKAD. This study complies with all rules specified in the "Higher Education Institutions Scientific Research and Publication Ethics Guidelines." None of the actions listed under the heading "Actions Contrary to Scientific Research and Publication Ethics" in the second section of the guidelines has been carried out. Since the research involved document analysis using articles found in publicly available databases, it does not require approval from an ethics committee.

3. RESULTS

Through the use of descriptive analysis data, researchers can derive quantitative knowledge and develop mathematical and computational patterns. This analysis helps to define the scope of the investigation. Table 1 in our article collection provides a breakdown of the number of articles and their respective categories, the number of authors involved, the average number of citations, and other descriptive information.

Table 1. Description of Data by RStudio

Timespan	**1976: 2023**
Sources (Journals, Books, etc)	301
Documents	757
Annual Growth Rate %	7.18
Document Average Age	5.32
Average citations per doc	20.43
Average citations per year per doc	2.904
References	25891
Article	688

Article; book chapter	3
Article; early access	22
Article; proceedings paper	18
Review	26
Authors	2085
Author Appearances	2512
Authors of single-authored docs	49
Single-authored docs	55
Documents per Author	0.363
Co-Authors per Doc	3.32
International co-authorships %	38.04

Figure 2 depicts the growth in publication between 1976 and 2022. The annual growth rate is 7.18 percent, and the number of publications appears to be on the rise. Between 2017 and 2022, the number of publications increased significantly from 54 papers to 108 papers.

With the expansion of e-commerce, businesses are increasingly turning to dynamic pricing to maximize revenue and maintain a competitive edge. As a growing number of businesses adopt dynamic pricing strategies, researchers are attempting to comprehend their implications for consumers and markets. With the development of new data analytics tools and machine learning algorithms, businesses are now able to collect and analyze vast quantities of information regarding consumer behavior and market trends. This has allowed for more sophisticated pricing strategies, such as personalized pricing and real-time pricing, which have attracted the interest of academics. Researchers are increasingly interested in how consumers respond to various pricing strategies and how pricing influences consumer behavior. This has led to a greater emphasis on pricing psychology, which has implications for a variety of industries outside of e-commerce. With the proliferation of digital transactions and sensors and other data collection devices, businesses now have access to vast quantities of data on consumer behavior and market trends. This has provided researchers with new opportunities to examine pricing dynamics and consumer behavior in real time.

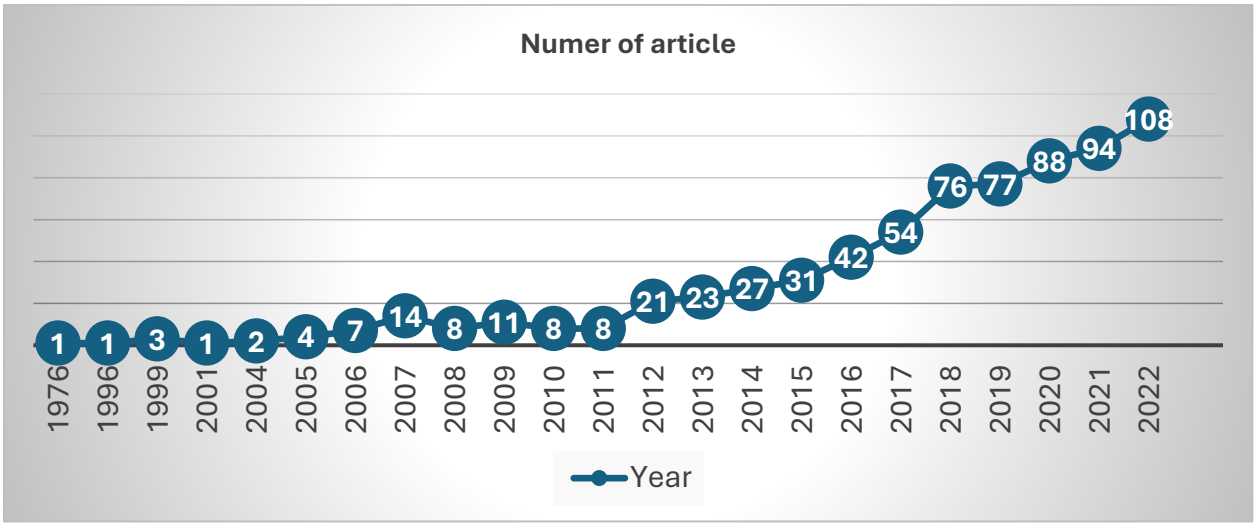

Figure 2. Annual scientific production. Source: own elaboration based on RStudio.

By analyzing the most influential publications in a research field using citations, one can gain an understanding of the intellectual dynamics of that field.

This analysis (Table 2 and Table 3) determines the significance of a publication based on the number of citations it receives. (Donthu et al., 2021) Most citated articles belongs Su (2007) and that paper was published in the " Management Science “ journal in 2007.

(Link: https://pubsonline.informs.org/doi/10.1287/mnsc.1060.0667 , 2007)

The article by Xuanming Su entitled "Intertemporal Pricing with Strategic Customer Behavior" examines the pricing strategies of firms when customers exhibit strategic behavior. The author creates a model in which customers decide when to buy a product based on the current price and their expectations for future prices. The company's goal is to maximize its total profits over a finite period of time. The model demonstrates that the company can increase profits by offering a price reduction in the current period to encourage customers to purchase the product sooner. However, this must be weighed against the possibility of cannibalizing future sales and reducing long-term profits. The optimal pricing strategy is determined by the customer's behavior, the firm's cost structure, and the time horizon.

Table 2. Top manuscripts per citations

No	**Paper**	**DOI**	**TC**	**TC per Year**	**NTC**
1	SU XUAN MING, 2007, MANAGE SCI	10.1287/mnsc.1060.0667	359	21.1	6.64
2	CACHON GP, 2009, MANAGE SCI	10.1287/mnsc.1080.0948	332	22.1	4.58
3	CACHON GP, 2017, M&SOM- MANUF SERV OP	10.1287/msom.2017.0618	286	40.9	7.81
4	EROL KANTARCI M, 2015, IEEE COMMUN SURV TUT	10.1109/COMST.2014.2341600	275	30.6	6.37
5	ALTHAHER S, 2015, IEEE T SMART GRID	10.1109/TSG.2014.2388357	272	30.2	6.30
6	XIE JH, 2001, MARKET SCI	10.1287/mksc.20.3.219.9765	265	11.5	1.00
7	PFROMMER J, 2014, IEEE T INTELL TRANSP	10.1109/TITS.2014.2303986	199	19.9	6.47
8	SCUTARI G, 2014, IEEE T SIGNAL PROCES	10.1109/TSP.2013.2293126	183	18.3	5.95
9	BESBES O, 2009, OPER RES	10.1287/opre.1080.0640	183	12.2	2.53
10	REHMANI MH, 2018, IEEE T IND INFORM	10.1109/TII.2018.2819169	158	26.3	6.62

Table 3. The most frequent cited first authors

Author	**Published year**	**Publication name**	**Journal**	**Link**	**Citation**
Guillermo Gallego, Garrett van Ryzin	1994	Optimal Dynamic Pricing of Inventories with Stochastic Demand over Finite Horizon	MANAGE SCI, V40	DOI10.1287/MNSC.40.8.999	86
Gabriel Bitran, René Caldentey	2003	An Overview of Pricing Models for Revenue Management	MANUFACTURING & SERVICE OPERATIONS MANAGEMENT, V5, P203	DOI 10.1287/MSOM.5.3.203.16031	46
Awi Federgruen,	1999	Combined Pricing and Inventory	OPER RES, , V20, P1	DOI 10.1287/OPRE.47.3.454	40

Aliza Heching		Control Under Uncertainty			
Wen Zhao, Yu-Sheng Zheng	2000	Optimal Dynamic Pricing for Perishable Assets with Nonhomogeneous Demand	MANAGE SCI, V46, P375	10.1287/MNSC.46.3.375.12063	36
Arnoud V. den Boer	2015	Dynamic pricing and learning: Historical origins, current research, and new directions	SURVEYS OPERATIONS R, V20, P1,	DOI 10.1016/J.SORMS.2015.03.001	35
Guillermo Gallego, Garrett van Ryzin	1997	A Multiproduct Dynamic Pricing Problem and Its Applications to Network Yield Management	OPER RES, V45, P24,	DOI 10.1287/OPRE.45.1.24	34
Amir-Hamed Mohsenian-Rad; Vincent W. S. Wong; Juri Jatskevich; Robert Schober; Alberto Leon-Garcia	2010	Autonomous Demand-Side Management Based on Game-Theoretic Energy Consumption Scheduling for the Future Smart Grid	IEEE T SMART GRID, V1, P320	DOI 10.1109/TSG.2010.2089069	34
Xuanming Su	2007	Intertemporal Pricing with Strategic Customer Behavior	MANAGE SCI, V53, P726,	DOI 10.1287/MNSC.1060.0667	34
Omar Besbes, Assaf Zeevi	2009	Dynamic Pricing Without Knowing the Demand Function: Risk Bounds and Near-Optimal Algorithms	OPER RES, V57, P1407	DOI 10.1287/OPRE.1080.0640	31
Victor F. Araman, René Caldentey	2009	Dynamic Pricing for Nonperishable Products with Demand Learning	OPER RES, V57, P1169	DOI 10.1287/OPRE.1090.0725	29

The purpose of the co-word analysis is to map the conceptual structure of a framework using co-occurrences of words (Aria and Cuccurullo 2017). Figure 3 depicts the result of the conceptual structure map. Methods of multiple-correspondence analysis were utilized.

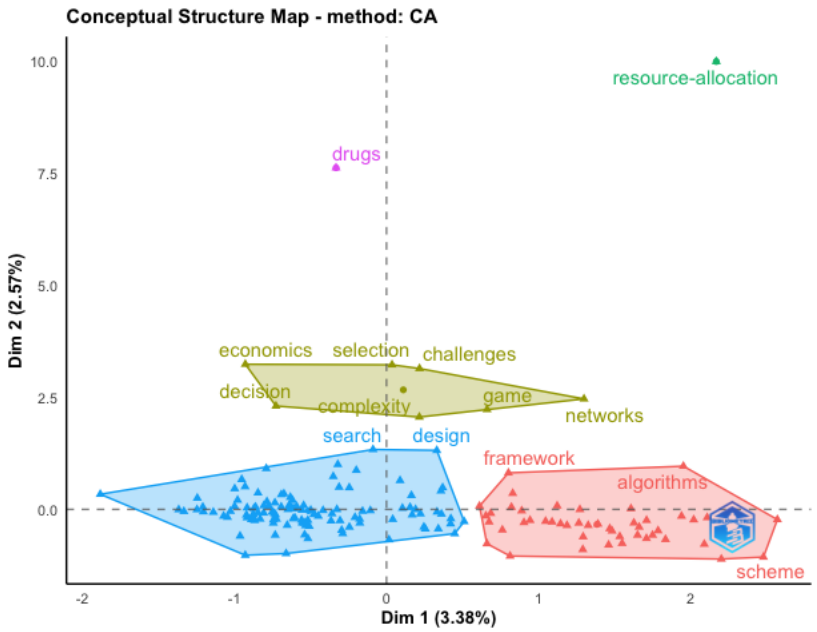

Figure 3. Conceptual structural map.

There are 337 articles of the keyword "dynamic pricing," while pricing and demand response appear 70 and 67 times, respectively. (Table 4) In the context of energy markets, dynamic pricing and demand response are two related concepts that are commonly adopted together. Dynamic pricing is a pricing strategy that permits the price of a good or service to fluctuate in response to changes in market conditions, such as supply and demand fluctuations. In the context of energy markets, dynamic pricing refers to the practice of adjusting the price of electricity in response to real-time fluctuations in the energy supply and demand. Based on the findings (Figure 4), dynamic pricing, pricing, demand response, and revenue management are among the most popular and emerging keywords in this research field, in addition to being the focus of the chosen field, indicating that the effects of dynamic pricing on employment are well-analyzed.

Table 4. Most Relevant Keywords

No	Author Keywords (DE)	Articles	Keywords-Plus (ID)	Articles
1	DYNAMIC PRICING	337	MODEL	111
2	PRICING	70	DEMAND	102
3	DEMAND RESPONSE	67	MANAGEMENT	83
4	REVENUE MANAGEMENT	61	STRATEGIES	59
5	SMART GRID	46	OPTIMIZATION	57
6	OPTIMIZATION	25	COMPETITION	53
7	DYNAMIC PROGRAMMING	22	REVENUE MANAGEMENT	52
8	DEMAND SIDE MANAGEMENT	19	POLICIES	42
9	GAME THEORY	17	IMPACT	39
10	MACHINE LEARNING	17	SYSTEM	39

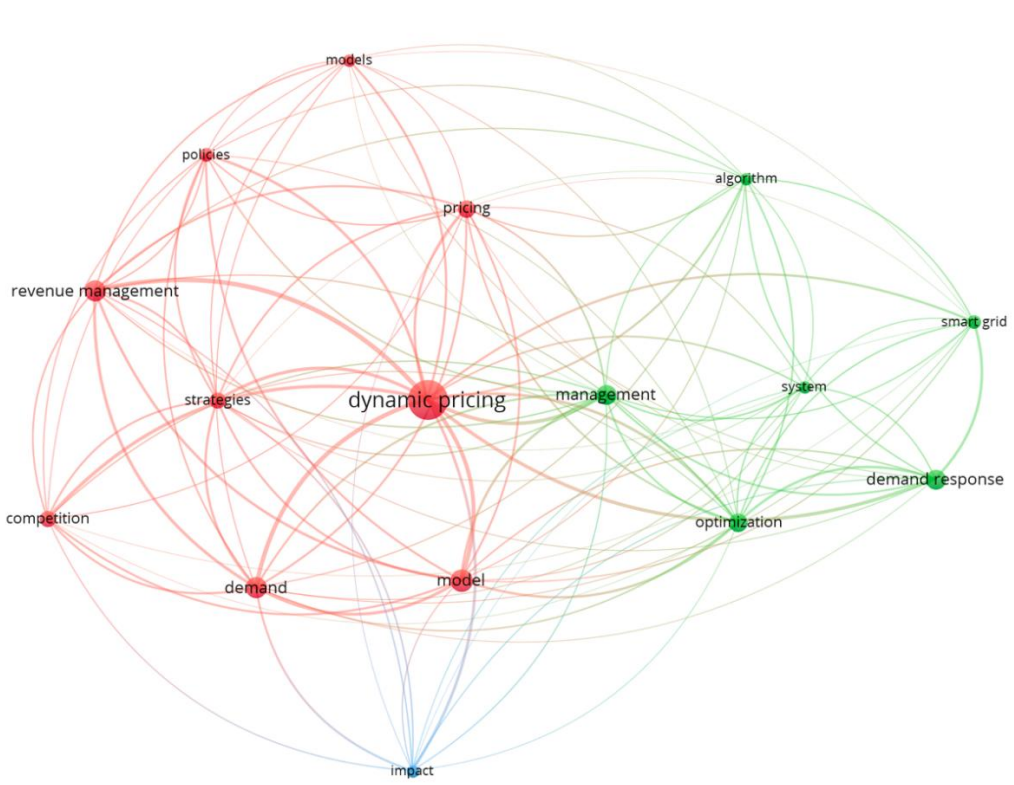

Figure 4. Word map of keywords. Source: RStudio results

(1018). Table 5 contains the overall citations for each country. The United States has the highest number of cited articles (5666), followed by China (1540), the United Kingdom (1389), and Netherland

Table 5. Total Citations per Country

No	Country	Total Citations	Average Article Citations
1	USA	5666	34.34
2	China	1540	9.87
3	United Kingdom	1389	28.94
4	Netherlands	1018	30.85
5	Italy	688	23.72
6	Germany	630	21.00
7	Canada	535	35.67
8	France	360	16.36
9	Pakistan	325	25.00
10	Switzerland	317	31.70

In addition, Figure 5 shows the list of the most productive countries . Table 6 depicts the nations with the highest rate of annual article publication. The United States is once again the most active nation (165), followed by China (156), the United Kingdom (48), and Netherland (33) published articles.

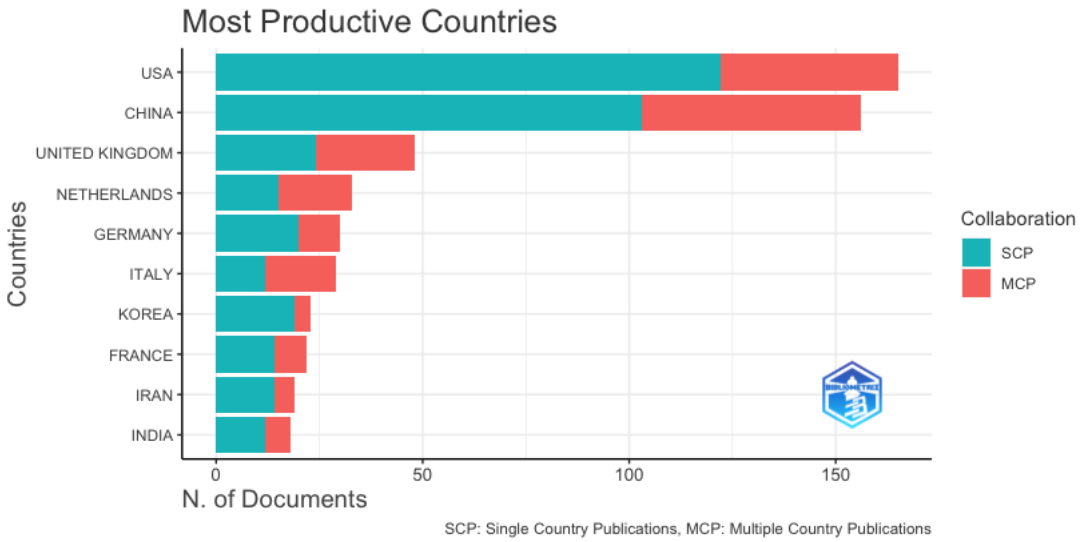

Figure 5. Most Productive Countries.

Table 6. Corresponding Author's Countries

No	Country	Articles	Freq	SCP	MCP	sMCP_Ratio
1	USA	165	0.2185	122	43	0.261
2	CHINA	156	0.2066	1	53	0.340
3	UNITED KINGDOM	48	0.0636	24	24	0.500
4	NETHERLANDS	33	0.0437	15	18	0.545
5	GERMANY	30	0.0397	20	10	0.333
6	ITALY	29	0.0384	12	17	0.586
7	KOREA	23	0.0305	19	4	0.174
8	FRANCE	22	0.0291	14	8	0.364
9	IRAN	19	0.0252	14	5	0.263
10	INDIA	18	0.0238	12	6	0.333

SCP: Single Country Publications MCP: Multiple Country Publications

The classification of journals is displayed in Tables 7 along with the number of articles and top-ranked journals. h index measures the impact of journals' productivity and citations. According to Table 4, the journal "Energies" has the highest number of published articles (30 articles) of all journals.

Table 7. The most relevant sources according to the publication number. Source: RStudio results

No	Journal	Number of Articles
1	ENERGIES	30
2	MANAGEMENT SCIENCE	24
3	IEEE ACCESS	23
4	OPERATIONS RESEARCH	23
5	SUSTAINABILITY	23
6	EUROPEAN JOURNAL OF OPERATIONAL RESEARCH	22
7	MATHEMATICAL PROBLEMS IN ENGINEERING	19
8	APPLIED ENERGY	17
9	IEEE TRANSACTIONS ON SMART GRID	15
10	JOURNAL OF REVENUE AND PRICING MANAGEMENT	15

4. DISCUSSION and CONCLUSION

4.1. Interpretation of Findings

The bibliometric data reveal a significant exponential growth in dynamic pricing literature, particularly over the last decade. This surge correlates strongly with the digital transformation of the global economy. While early research (1970s-1990s) focused primarily on the airline industry and yield management (Kimes, 2003), the post-2010 spike observed in our data suggests a paradigm shift driven by Big Data and E-commerce. As noted by Liu et al. (2020), the availability of massive datasets has allowed researchers to move from theoretical pricing models to data-driven algorithmic applications.

The citation analysis highlights the foundational role of specific scholars in shaping this domain. The dominance of Su (2007), "Intertemporal Pricing with Strategic Customer Behavior," as the most cited article is particularly telling. It marks a critical turning point in the literature: the shift from assuming customers are passive price-takers to recognizing them as strategic agents who anticipate future price drops. This finding aligns with Levin et al. (2009), who argued that ignoring strategic consumer behavior leads to suboptimal revenue performance.

Furthermore, the keyword co-occurrence analysis reveals distinct clusters that represent the diversification of the field. Beyond traditional revenue management in hospitality, a notable finding is the emergence of "energy markets" and "demand response" as key research themes. Unlike the service sector, dynamic pricing in energy is driven by sustainability goals and grid stability, suggesting that the scope of dynamic pricing has expanded beyond profit maximization to include resource efficiency.

4.2. Theoretical and Managerial Implications

The evolution of keywords also points to a growing concern regarding the customer's perspective. Terms related to "fairness," "trust," and "perception" appear more frequently in recent publications. This reflects the industry's realization that while algorithmic pricing is mathematically optimal, it carries reputational risks if customers perceive it as "price gouging" (Kramer et al., 2018).

For practitioners, the results highlight the necessity of integrating "fairness constraints" into pricing algorithms to maintain long-term brand loyalty. Industries such as airlines, hospitality, and digital platforms must balance profit maximization with customer trust. For **academics**, the study identifies a clear gap in behavioral research: while mathematical models for pricing are well-developed, empirical studies on how real consumers *react* to AI-driven price changes remain an emerging frontier.

This study aimed to analyze the intellectual structure of dynamic pricing research using a dataset of 985 peer-reviewed articles. By employing bibliometric indicators, we identified the shift from simple inventory control to complex, data-driven algorithmic pricing. The study confirms that dynamic pricing has evolved from a tactical operational tool into a strategic capability essential for modern digital business.

4.3. Limitations and Future Research

Despite its comprehensive scope, this study is limited to English-language publications from specific databases (Web of Science, ScienceDirect, Google Scholar). Future research should expand this scope to include non-English studies and grey literature. Additionally, future bibliometric analyses could focus specifically on the intersection of "AI ethics" and "dynamic pricing," which our results suggest is a rapidly growing subfield.

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Araştırma Makalesi / Research Article

Bibliometric Analysis of Dynamic Pricing

Dinamik Fiyatlandırmanın Bibliyometrik Analizi

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Genişletilmiş Özet

Dinamik fiyatlandırma, firmaların değişken talep koşulları altında gelirlerini maksimize etmek amacıyla fiyatları zaman içinde esnek biçimde ayarlamalarına olanak tanıyan stratejik bir fiyatlama yaklaşımıdır. Özellikle dijitalleşmenin hız kazanması, büyük veri analitiği ve yapay zekâ temelli algoritmaların yaygınlaşmasıyla birlikte dinamik fiyatlandırma; havayolu taşımacılığı, konaklama, e-ticaret, perakende ve enerji piyasaları gibi pek çok sektörde temel bir rekabet aracı hâline gelmiştir. Gerçek zamanlı veri akışları sayesinde firmalar, talep düzeyi, stok miktarı, müşteri davranışları ve rakip fiyatları gibi unsurları eş anlı olarak değerlendirerek fiyatlarını sürekli güncelleyebilmektedir. Bu gelişmeler, dinamik fiyatlandırmayı yalnızca operasyonel bir araç olmaktan çıkararak stratejik bir yönetim kapasitesine dönüştürmüştür.

Dinamik fiyatlandırmaya ilişkin akademik literatür, başlangıçta ağırlıklı olarak gelir yönetimi ve stok kontrolü çerçevesinde şekillenmiştir. Erken dönem çalışmalar, özellikle havayolu sektöründe kapasite tahsisi ve bilet fiyatlandırması üzerine odaklanmış; zamanla bu yaklaşım otelcilik, perakende ve çevrim içi platformlara doğru genişlemiştir. Son yıllarda ise literatürde önemli bir dönüşüm yaşanmış; müşteri davranışlarının stratejik niteliği, algoritmik fiyatlandırma, makine öğrenmesi uygulamaları ve enerji piyasalarında talep tepkisi (demand response) gibi konular ön plana çıkmıştır. Buna karşın, hızla büyüyen bu literatürün entelektüel yapısını, temel aktörlerini ve araştırma eğilimlerini bütüncül biçimde ele alan çalışmaların sınırlı olduğu görülmektedir.

Bu çalışmanın temel amacı, dinamik fiyatlandırma alanındaki küresel akademik literatürü bibliyometrik analiz yöntemiyle inceleyerek alanın gelişim sürecini, baskın araştırma temalarını, etkili yazarları, önde gelen dergileri ve ülke bazlı katkıları ortaya koymaktır. Bu doğrultuda çalışma, dinamik fiyatlandırma araştırmalarının tarihsel evrimini sistematik bir çerçevede sunmayı ve hem akademisyenler hem de uygulayıcılar için yol gösterici bir referans oluşturmayı hedeflemektedir.

Araştırmada veri seti, “dynamic pricing” anahtar kelimesi kullanılarak Web of Science, ScienceDirect ve Google Scholar veri tabanlarından elde edilmiştir. İncelenen dönem 1976–2023 yıllarını kapsamaktadır. İlk aşamada toplam 6.367 dokümana ulaşılmış; ardından yinelenen kayıtlar, İngilizce olmayan yayınlar, kitaplar, kitap bölümleri, editöryal yazılar, mektuplar ve araştırma niteliği taşımayan dokümanlar veri setinden çıkarılmıştır. Çok aşamalı tarama ve eleme süreci sonucunda, analize dâhil edilen nihai örneklem 985 adet hakemli araştırma makalesinden oluşmuştur. Bu sistematik seçim süreci, çalışmanın şeffaflığını ve tekrarlanabilirliğini güvence altına almaktadır.

Analiz sürecinde bibliyometrik yöntemlerden yararlanılmış; betimleyici analiz, atıf analizi, eş-atıf (co-citation) analizi ve anahtar kelime eş-oluşum (co-occurrence) analizi uygulanmıştır. Analizler RStudio ortamında bibliometrix paketi kullanılarak gerçekleştirilmiş, ağ haritaları ve görselleştirmeler VOSviewer yazılımı aracılığıyla oluşturulmuştur. Bu yaklaşım, literatürün nicel özelliklerini ortaya koymanın yanı sıra kavramsal yapıların ve araştırma kümelerinin belirlenmesine imkân tanımıştır.

Elde edilen bulgular, dinamik fiyatlandırma literatüründe özellikle son on yılda belirgin bir yayın artışı olduğunu göstermektedir. Yıllık ortalama büyüme oranı yaklaşık %7,18 olup, yayın sayısındaki artışın dijital ekonominin gelişimiyle güçlü biçimde ilişkili olduğu görülmektedir. Özellikle 2017 sonrası dönemde e-ticaretin yaygınlaşması, büyük veri analitiği ve makine öğrenmesi tekniklerinin akademik çalışmalara entegrasyonu, literatürdeki ivmeyi önemli ölçüde artırmıştır.

Atıf analizi sonuçları, alanın entelektüel temellerini oluşturan çalışmaları açık biçimde ortaya koymaktadır. Xuanming Su'nun (2007) "Intertemporal Pricing with Strategic Customer Behavior" başlıklı çalışması, en yüksek atıf alan yayın olarak öne çıkmaktadır. Bu çalışma, müşterilerin pasif fiyat alıcıları olmadığı, aksine gelecekteki fiyat değişimlerini öngörerek satın alma zamanlamalarını stratejik biçimde belirledikleri varsayımını literatüre kazandırması açısından bir dönüm noktası niteliğindedir. Benzer biçimde Gallego ve Van Ryzin, Cachon, Besbes ve Caldentey gibi yazarların çalışmaları, dinamik fiyatlandırmanın teorik ve metodolojik altyapısının şekillenmesinde belirleyici rol oynamıştır.

Anahtar kelime eş-oluşum analizi, literatürdeki tematik çeşitlenmeyi net biçimde göstermektedir. "Dynamic pricing" anahtar kelimesinin yanı sıra "pricing", "revenue management", "optimization", "demand response", "smart grid" ve "machine learning" gibi kavramların öne çıktığı görülmektedir. Özellikle enerji piyasalarına ilişkin çalışmalar, dinamik fiyatlandırmanın yalnızca kâr maksimizasyonu değil, aynı zamanda sürdürülebilirlik ve sistem dengesi gibi hedeflere de hizmet ettiğini ortaya koymaktadır. Bu bulgu, dinamik fiyatlandırmanın uygulama alanlarının hizmet sektörünün ötesine geçtiğini ve kamu politikalarıyla da kesişen bir araştırma alanına dönüştüğünü göstermektedir.

Ülke bazlı analizler, Amerika Birleşik Devletleri'nin hem toplam atıf sayısı hem de yayın sayısı açısından lider konumda olduğunu ortaya koymaktadır. ABD'yi Çin, Birleşik Krallık ve Hollanda takip etmektedir. Bu durum, gelişmiş dijital altyapıya ve güçlü akademik ekosistemlere sahip ülkelerin alandaki bilgi üretiminde belirleyici olduğunu göstermektedir. Dergi bazlı analizler ise Energies, Management Science, Operations Research ve IEEE Access gibi dergilerin dinamik fiyatlandırma çalışmalarının yoğunlaştığı başlıca yayın organları olduğunu ortaya koymaktadır.

Çalışmanın bulguları, dinamik fiyatlandırma literatürünün zaman içinde önemli bir dönüşüm geçirdiğini göstermektedir. Başlangıçta ağırlıklı olarak stok ve kapasite yönetimi odaklı olan çalışmalar, günümüzde veri temelli algoritmik fiyatlandırma, tüketici algısı, fiyat adaleti ve etik tartışmalar gibi daha geniş bir çerçeveye evrilmiştir. Özellikle kişiselleştirilmiş fiyatlandırma uygulamalarının yaygınlaşması, müşteri güveni ve algılanan adalet gibi kavramları akademik gündemin merkezine taşımıştır.

Sonuç olarak bu çalışma, dinamik fiyatlandırma alanındaki 985 hakemli makaleyi kapsayan kapsamlı bir bibliyometrik analiz sunarak literatürün entelektüel yapısını, gelişim eğilimlerini ve gelecekteki araştırma yönlerini ortaya koymaktadır. Çalışma, akademisyenler için alanın kavramsal haritasını sunarken, uygulayıcılar için de dinamik fiyatlandırma stratejilerinin hangi bağlamlarda ve hangi riskler altında şekillendiğine dair önemli çıkarımlar sağlamaktadır. Gelecekte yapılacak çalışmaların, yapay zekâ etiği, fiyat adaleti ve tüketici tepkileri gibi konulara daha fazla odaklanmasının literatüre anlamlı katkılar sunacağı değerlendirilmektedir.