



A BIBLIOMETRIC ANALYSIS RELATED TO GREEN ACCOUNTING

Yeşil Muhasebeye İlişkin Bir Bibliyometrik Analiz

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Doi: <https://doi.org/10.33723/rs.1363543>

Açık Taşar, S. (2023). "A bibliometric analysis related to green accounting". R&S- Research Studies Anatolia Journal, 6(4). 636-651.

Makale Türü / Article Type: Araştırma Makalesi / Research Article

Geliş Tarihi/ Arrived Date: 20.09.2023

Kabul Tarihi / Accepted Date: 03.10.2023

Yayınlanma Tarihi / Published Date: 20.10.2023

ABSTRACT

In recent years, green accounting has become a critical tool for organizations to measure and manage the ecological impacts of their economic activities in the face of increasing environmental concerns and the urgency of transitioning to a sustainable future. In the face of these developments, the increasing importance of green accounting has been reflected both in businesses and in researchers doing research on the subject. The purpose of this study is to examine the postgraduate theses published between 2014 and 2023 on the subject, after providing information about the concept of green accounting and its importance in a general framework. For this purpose, 30 postgraduate theses were examined in the study. The data obtained was collected from the National Thesis Center of the Council of Higher Education through the bibliometric analysis method. The results of the study include that the majority of theses on the subject were written in 2019, the subject was discussed more frequently by female researchers, and the majority of theses written in the examined time period were written with quantitative methods. It is expected that this study will contribute to the literature by examining the distribution of published theses on green accounting based on certain variables.

Keywords: Green Accounting, Environmental Accounting, Sustainability

ÖZ

Son yıllarda yeşil muhasebe, artan çevresel kaygılar ve sürdürülebilir bir geleceğe geçiş aciliyeti karşısında organizasyonların ekonomik faaliyetlerinin ekolojik etkilerini ölçmek ve yönetmek için kritik bir araç haline gelmiştir. Bu gelişmeler karşısında, yeşil muhasebenin artan önemi gerek işletmelere, gerekse konuyla ilgili araştırma yapan araştırmacılara yansımıştır. Bu çalışmanın amacı, yeşil muhasebe kavramı ve önemi hakkında genel bir çerçevede bilgi verdikten sonra, konu ile ilgili 2014-2023 yılları arasında yayınlanan lisansüstü tezlerin incelenmesidir. Çalışmada bu amaç doğrultusunda, 30 adet lisansüstü tez incelenmiştir. Elde

edilen veriler Yükseköğretim Kurulu Başkanlığı Ulusal Tez Merkezi'nden bibliyometrik analiz yöntemi yoluyla toplanmıştır. Çalışmanın sonuçları arasında, konuyla ilgili en çok tezin 2019 yılında yazıldığı, konunun kadın araştırmacılar tarafından daha sık konu edinildiği, incelenen zaman diliminde yazılan tezlerin büyük çoğunluğunun nicel yöntemlerle yazıldığı sonuçları yer almaktadır. Bu çalışmanın, yeşil muhasebe konusuyla ilgili yayınlanmış tezlerin belirli değişkenler bazında dağılımını incelenmesi yönünden literatüre katkı sağlayacağı beklenmektedir.

Anahtar Kelimeler: Yeşil Muhasebe, Çevre Muhasebesi, Sürdürülebilirlik

INTRODUCTION

In the last few decades, greater awareness has been essential for the continued existence of the environment. Traditional techniques of assessing economic development and prosperity appear increasingly insufficient in a society coping with significant concerns such as global warming, degradation of the environment, and shortages of resources. With the growing public interest in ecological awareness, societies value whether firms contribute appropriately to environmental protection in addition to the accuracy of accounting information. As such, numerous governments have begun to investigate green accounting throughout the last century.

Green accounting, also referred to as environmental accounting, examines the interaction between economic growth and environmental resources with the basis of related environmental laws and regulations with the goal of providing ecological knowledge of accounting theory and method (Shaley, 2016).

Many environmental expenses can be removed or decreased by using green accounting as a tool, such as through efficient choices and investing in greener technologies or even ecologically friendly means of manufacturing rather than using documents or paper for documentation, for example. Book and paper consumption can be minimized by digitizing the

business's data. Because they emphasize environmental responsibility, many small and medium-sized enterprises are turning to green accounting (Ravikumar and Aithal, 2020).

This study has investigated the concepts and importance of green accounting, primary objectives, and the green accounting reporting for organizations and governments. The aim of this study is to use a bibliometric analysis to look at master's and doctorate theses on green accounting and environmental accounting published between 2014 and 2023. It is expected that the study will contribute to academics who conduct research on the subject and deepen the accounting profession's interest in environmental protection awareness.

CONCEPTUAL FRAMEWORK

The Concept of Green Accounting

Professor Peter Wood, an economist, introduced the term "environmental accounting" in the 1980s. Environmental accounting, often known as green accounting, is an endeavor to widen the focus of all accounting frameworks used to measure economic performance, such as financial accounting standards, national accounts, and others (Sadiku et al., 2021:60). In other words, green accounting is a strategy that goes beyond traditional financial accounting procedures. Recognizing that economic activity has significant effects on the environment and society, it aims to measure and account for all of these consequences.

Green accounting is the qualification, prioritizing, quantification, and incorporation of environmental costs into company results (Datta and Deb, 2012:99). In another definition, Green accounting is defined as the concept concerned with accounting and management challenges with environmental and social implications, safety, regulations and constraints, environmentally sound, and economically viable energy production and delivery (Amran and Devi, 2008). Green accounting is the road to an environmentally friendly future. When businesses prepare their final accounts or balance sheets, they typically decide internal costs

such as labor and material costs, which have a direct impact on the organization's balance sheet (The European Commission, 2011).

The Importance and Primary Objectives of Green Accounting

Green accounting supports organizations by increasing resource efficiency, lowering risks, increasing transparency and accountability, giving them a competitive advantage, informing sustainable decision-making, and assisting them in adapting to changing environmental and societal situations (www.wallstreetmojo.com).

Green accounting, in general, seeks to create sustainable development, forge bonds with society, and maintain effective and efficient environmental protection actions (Taşkın, 2019:37). While looking at a broader aspect, the following are the primary objectives of the green accounting system (Sadiku et al., 2021:60):

- To determine the portion of the GDP that reflects the expenses of compensating for the negative effects of growth in the economy
- To connect physical resource accounts to monetary environmental accounts
- Evaluate environmental costs and benefits
- Account for the upkeep of tangible goods
- Calculate the indicators of ecologically adjusted product and income.

Green Accounting (Sustainability) Reporting

Sustainability Reporting is an application that aims at sustainable development, makes observations and explanations for measuring corporate performance, and operates with the principle of being accountable to internal and external stakeholders as well as all segments of society (Güldoğan, 2021).

According to Crane and Glozer (2016), the following are the reasons for developing and implementing green accounting reports:

- Leading stakeholders to affect behavior and establish relationships,

- Improving the image to display the business in a positive manner,
- Legislation and accounting of references to desirable and appropriate decisions,
- Changing the attitudes and behaviors of customers,
- Senses to communicate how the business and stakeholders understand their business in order to develop and maintain a positive image,
- Expecting higher monetary benefits.

LITERATURE SUMMARY

Owen et al. (1997) studied the issues of the social and environmental accounting systems in their study. The study also examined professional accountants' efforts to adopt these alternative reporting types.

Burritt (2004) discussed the issues and opportunities discovered in environmental accounting in the study. The study indicated that there is a need for future research on investment appraisal in environmental accounting.

Çelik (2007) studied environmental accounting theoretically in the study, explaining its historical growth, benefits, and challenges.

In their study, Haftacı and Soylu (2008) stated that environmental pollution control methods should be based on economic metrics. The study also discussed how environmental economic values are represented in cost accounts in environmental accounting.

Lazol et al. (2008) investigated the relationship between accounting and the environment within the context of social responsibility, the accounting of environmental costs, and the notion of environmental accounting through SMEs in their study. The study concluded that the majority of participating businesses employ environmental accounting, and awareness of sustainable development has improved.

Kırloğlu and Fidan (2011) explained environmental expenses in their study to promote awareness of environmental costs among enterprises. The study highlighted the opinions and practices of enterprises in Sakarya towards environmental costs.

Yardımcıoğlu (2012) investigated the topic of environmental accounting in accordance with Islamic principles in his work. The author cited Islamic texts and pertinent material in the study and explored Islamic principles and accounting suggestions.

The emergence of carbon accounting was examined in Altınbay and Golagan's (2016) study. The IFRIC 3 standard released by the International Accounting Standards Board is also mentioned in the study, and an example is provided to help the reader grasp the subject.

Ağ (2017) sought to ascertain the importance of environmental accounting among production firms operating in the TRA1 region in the study. Significant correlations were discovered as a result of the investigation between the operating periods of the firms and the provinces in which they operate.

Yalçın and Sümerli Sargül (2021) conducted a study on published papers in the fields of green marketing and green accounting. As a consequence of the research, it has been discovered that interest in the field has grown in recent years.

Yelgen (2022) tries to clarify the environmental expenses associated with green accounting and how these costs are integrated and accounted for in the general accounting system in his paper. It was found that the study adds to the current literature by calculating and accounting for environmental expenses and raising awareness about the importance of being environmentally conscious.

According to the findings of Kızılyalçın's (2022) study on manufacturing industry firms on Turkey's list of large industrial enterprises, the participants embraced environmental management accounting procedures at a low level.

METHODOLOGY

The Aim of the Study

This study aims to examine postgraduate theses on green accounting and environmental accounting in terms of various parameters.

The Population of the Study

The population of the study is master's and doctoral theses related to green accounting and environmental accounting published in Ulusal Tez Merkezi between 2014 and 2023.

The Method of the Study

A total of 30 publications were examined with bibliometric analysis in the Excel program. Bibliometric analysis is important in that it provides the opportunity to research, analyze, and classify scientific research in detail (Gök and Çarıkçı, 2022:377). These classifications consist of many parameters, such as thesis type, year, university name, advisor's title, research topic, method type, and number of pages.

The Results of the Study

The results obtained in the study are listed below in Tables 1–9, according to the relevant variables. The year variable in which the postgraduate theses examined in Table 1 were published is considered.

Table 1. Distribution of Theses by Years

Year	Frequency
2023	1
2022	4
2021	1
2020	4
2019	7
2018	4
2017	3
2016	3
2015	2
2014	1
Total	30

When the results obtained from Table 1 were examined, it was determined that the most green accounting and environmental accounting-themed theses were published in 2019 (23%), with 7 theses. This result was followed by 2022, 2020, and 2018 with 4 theses (13%) each.

In Table 2, the distribution according to the universities where the theses were carried out is shown.

Table 2. Distribution of Theses by Universities

University Name	Frequency
Atatürk University	1
Batman University	1
Bayburt University	2
Bilecik Şeyh Edebali University	2
Burdur Mehmet Akif Ersoy University	2
Bursa Uludağ University	2
Dicle University	2
Gazi University	1
Gaziosmanpaşa University	1
Hacettepe University	1
Hasan Kalyoncu University	1
Hitit University	1
İnönü University	1
İstanbul Kültür University	1
İstanbul University	1
İzmir Katip Çelebi University	1
Kafkas University	1
Kahramanmaraş Sütçü İmam University	1
Karadeniz Teknik University	2
Karamanoğlu Mehmetbey University	1
Manisa Celal Bayar University	1
Muğla Sıtkı Koçman University	1
Sivas Cumhuriyet University	1
Trakya University	1
Total	30

According to the results obtained from Table 2, it was determined that the highest number of theses published on green accounting and environmental accounting were carried out in more than one university, with 2 theses (7%) each. It was concluded that these universities are Bayburt University, Bilecik Şeyh Edebali University, Burdur Mehmet Akif Ersoy University, Bursa Uludağ University, Dicle University, and Karadeniz Technical University.

Table 3 is based on the researchers' graduate degree variable.

Table 3. Distribution of Theses by Degree

Degree	Frequency
Doctorate	3
Master	27
Total	30

According to the results in Table 3, it was determined that the highest number of published green accounting and environmental accounting-themed theses were master's theses, with 27 (90%). The subject has been chosen as the subject of master's theses with a great numerical advantage compared to doctoral theses.

Table 4 shows the distribution according to the gender of the authors.

Table 4. Distribution of Theses by Author's Gender

Gender	Frequency
Female	21
Male	9
Total	30

When the results in Table 4 are examined, it is concluded that female researchers study green accounting and environmental accounting themes more frequently than male researchers. Accordingly, female researchers studied the subject as a thesis topic, with a large numerical advantage compared to male researchers, with 21 theses (70%).

The distribution is made according to the research method of the theses published in Table 5.

Table 5. Distribution of Theses by Research Methods

Research Method	Frequency
Qualitative	6
Quantitative	24
Total	30

According to the results in Table 5, the majority of green accounting and environmental accounting-themed graduate theses published between 2014 and 2023 were carried out according to quantitative methods, with 24 of them (80%).

Table 6 details the research method type of the published theses.

Table 6. Distribution of Theses by Method Types

Type of the Method	Frequency
Case Study	5
Content Analysis	3
Interview	1
Questionnaire	19
Systematic Review	2
Total	30

According to the results obtained in Table 6, 63% of the graduate theses on green accounting and environmental accounting published between 2014 and 2023 were carried out with the questionnaire method (19 theses). In 17% (5 theses) of these theses, the case study method was used.

Table 7 shows the distribution according to the title of the thesis advisor.

Table 7. Distribution of Theses by Title of the Advisor

Title of the Advisor	Frequency
Assistant Professor	7
Associate Professor	11
Professor	12
Total	30

According to the results obtained in Table 7, the advisors of 12 (40%) of the graduate theses on green accounting and environmental accounting published between 2014 and 2023 have the title of Professor, and the advisors of 11 (37%) have the title of Associate Professor.

Table 8 shows the distribution of theses according to accounting theme.

Table 8. Distribution of Theses by Accounting Titles

Accounting Title	Frequency
Environmental Accounting	27
Green Accounting	3
Total	30

According to the results obtained from Table 8, it was determined that the majority of green accounting and environmental accounting-themed graduate theses published between 2014 and 2023 (27 theses and 90%) used environmental accounting in the thesis title.

Table 9 shows the distribution of theses according to the number of pages.

Table 9. Distribution of Theses by Number of Pages

Number of Pages	Frequency
Less than 100	3
Between 100-149	15
Between 150-199	10
More than 200	2
Total	30

When the results in Table 9 were examined, it was determined that the number of pages of 50% (15 theses) of green accounting and environmental accounting-themed graduate theses published between 2014 and 2023 was between 100 and 150. The number of pages in 33% (10 theses) of these theses was between 150 and 200.

CONCLUSION AND SUGGESTIONS

Today, the world faces significant environmental challenges. By adding ecological and social components to traditional financial accounting, green accounting necessitates a paradigm shift for evaluating growth in the economy. Therefore, green accounting is not just an option but rather a need for paving the road for a sustainable future by evaluating performance both for monetary advantages and responsibility to the world.

This study looked into the concepts and significance of green accounting, major objectives, and green accounting reporting for enterprises. The purpose of this study is to do a bibliometric analysis of master's and doctoral theses on green accounting and environmental accounting published between 2014 and 2023. 30 postgraduate theses were examined in the study. The data obtained in the study were collected from the National Thesis Center of the Council of Higher Education in Turkey.

According to the results of this study, it was determined that the most green accounting and environmental accounting-themed theses were published in 2019 (23%), with 7 theses; the highest number of theses published on green accounting and environmental accounting were

carried out in more than one university (Bayburt University, Bilecik Şeyh Edebali University, Burdur Mehmet Akif Ersoy University, Bursa Uludağ University, Dicle University, and Karadeniz Technical University), with 2 theses (7%) each; the highest number of published green accounting and environmental accounting-themed theses were master's theses, with 27 (90%).

Another result gained from the study was that female researchers study green accounting and environmental accounting themes more frequently than male researchers. The majority of green accounting and environmental accounting-themed graduate theses published between 2014 and 2023 were carried out according to quantitative methods, with 24 of them (80%). Of the 24 theses in which the quantitative method was applied, the questionnaire method was used in 19 and the case study method was used in 5. The advisors of 12 (40%) of the graduate theses on green accounting and environmental accounting published between 2014 and 2023 were professors, while 11 (37%) were associate professors.

Finally, it was discovered that the majority (27 theses and 90%) of green accounting and environmental accounting-themed graduate theses published between 2014 and 2023 used environmental accounting in the thesis title; the number of pages of 50% (15 theses) of theses published between 2014 and 2023 was between 100 and 150.

This study is expected to add to the literature by studying the distribution of published theses on green accounting based on mentioned certain variables. Based on the fact that the study was mostly studied in master's theses and the survey method was used as a method, examining the subject using different methods in doctoral theses since it is a current issue will both contribute to the literature and be a guide for businesses. Indeed, green accounting can assist policymakers, corporations, and individuals in making accurate choices that emphasize protecting the environment and sustainability. Following suggestions have been offered in order to raise ecological awareness for organizations (Agarval and Kalpaja, 2018:209):

- Governments should make green accounting compulsory for all organizations.
- Governments should enact stricter ecological standards and legislation.
- Corporations must publish their green accounting statistics as part of their annual reports.
- Every employee in an organization needs to comprehend the significance of green reporting.

REFERENCES

- Agarwal, V., & Kalpaja, L. (2018). A study on the importance of green accounting. *International Journal of Advance Research, Ideas and Innovations in Technology*, 4(5), 2016-210.
- Ağ, A. (2017). Çevre muhasebesi ve çevresel politikalara verilen önem düzeyi: Erzurum-Erzincan karşılaştırması. *İGÜ Sosyal Bilimler Dergisi*, ICEFM 2017 Özel Sayısı, 89-105.
- Amran, A., & Devi, S. S. (2008). The impact of government and foreign affiliate influence on corporate social reporting: The case of Malaysia. *Managerial Auditing Journal*, 23(4), 386-404.
- Altınbay, A., & Golagan, M. (2016). Küresel ısınma sorunlarına muhasebecilerin bakışı: Karbon muhasebesi. *İnsan ve Toplum Bilimleri Araştırmaları Dergisi*, 5(7), 2106-2119.
- Burritt, R. L. (2004). Environmental management accounting: Roadblocks on the way to the green and pleasant land. *Business Strategy and the Environment*, 13, 12-32.
- Crane, A., & Glozer, S. (2016). Researching corporate social responsibility communication: Themes, opportunities and challenges. *Journal of Management Studies*, 53(7), 1223-1252.
- Çelik, M. (2007). Çevreye duyarlı muhasebe. *Muhasebe ve Finansman Dergisi*, 33, 151-161.

- Datta, R., & Deb, S. K. (2012). Green accounting: What? Why? Where are we now and where we are heading. A closer look. *European Journal of Business and Management*, 4(4), 99-109.
- Gök, A. G., & Çarıkçı, O. (2022). Çevre muhasebesi konulu çalışmaların bibliyometrik analizi. *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 27(3), 369-391.
- Güldoğan, Ö. (2021). Entegre raporlama ve AHP yöntemiyle entegre raporlama endeksinin oluşturulmasına yönelik bir model önerisi. Doktora tezi. İzmir: İzmir Katip Çelebi Üniversitesi Sosyal Bilimler Enstitüsü.
- Haftacı, V., & Soylu, K. (2008). Çevresel bilgilerin muhasebesi ve raporlaması. *Kocaeli Üniversitesi Sosyal Bilimler Dergisi*, 15, 92-113.
- Kırhoğlu, H., & Fidan, M. E. (2011). İşletmelerde çevresel maliyetler ve bir uygulama. *Akademik Yaklaşımlar Dergisi*, 2(1), 1-24.
- Kızıyalçın, A. (2022). Çevre yönetim muhasebesi: İSO 2020’de yer alan işletmelerde uygulama. *Erciyes Akademi Dergisi*, 36(3), 1025-1054.
- Lazol, İ., Muğal, E., & Yücel, Y. (2008). Sürdürülebilir bir çevre için çevre muhasebesi ve KOBİ’lere yönelik bir araştırma. *Muhasebe ve Finansman Dergisi*, 38, 56-69.
- Owen, D., Gray, R., & Bebbington, J. (1997). Green accounting: Cosmetic irrelevance or radical agenda for change?. *Asia Pasific Journal of Accounting*, 4(2), 175-198.
- Ravikumar, K., & Aithal, P. S., (2020). Green accounting and its significance for companies. *Compliance Engineering Journal*, 11(11), 195-203.
- Sadiku, M. N. O., Tolulope, J. A., Sunday, S. A., & Sarhan, M. M. (2021). Green accounting: A primer. *International Journal of Scientific Advances*, 2(1), 60-62.
- Shaley, M. (2016). Green accounting theory and sustainable development. *Accounting, Auditing and Accountability Journal*, 2, 1-14.

- Taşkın, Neslihan. (2019). Çevre Muhasebesi ve Bir Uygulama. Yüksek Lisans Tezi, Hacettepe Üniversitesi, Ankara.
- The European Commission, (2021). Green accounting as the path to a sustainable future. <https://www.greenbiz.com/article/green-accounting-path-sustainable-future>, Erişim Tarihi: 13.08.2023.
- Yalçın, A., & Sarıgül Sümerli, S. (2021). Yeşil pazarlama ve yeşil muhasebe konularının görsel haritalama tekniğine göre bibliyometrik analizi. *Third Sector Social Economic Review*, 56(1), 304- 328.
- Yardımcıoğlu, M. (2012). İslam, çevre ve muhasebe: İslami ilkeler ve çevre muhasebesi kavramı. *Kahramanmaraş Sütçü İmam Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 2(1), 49-68.
- Wallstreetmojo, (2023). Green accounting. <https://www.wallstreetmojo.com/green-accounting> Erişim Tarihi: 13.08.2023.
- Yelgen, E. (2022). Yeşil muhasebe ve uygulama örnekleri üzerine bir çalışma. *Yönetim Bilimleri Dergisi*, II. Uluslararası Sosyal Bilimler Konferansı Özel Sayısı, 100-126.