

APA Style Resource Usage:

Tutcu, B., Talaş, H. (2021). A Research on Postgraduate Thesis Studies On Cost In Turkey Between 1990-2020. *Malatya Turgut Özal University Journal of Business and Management - Sciences*. 2(1), 47-60.

A RESEARCH ON POSTGRADUATE THESIS STUDIES ON COST IN TURKEY BETWEEN 1990-2020*

Lect. Dr. Burçin TUTCU**

Lect. Dr. Hasan TALAŞ***

ABSTRACT

Eventhough it is considered as a subdivision of accounting field; calculating the cost of a product or a service that is planned to be produced is considered as the common field of study of every sector and every field of science. Since cost calculation is a multidisciplinary topic this study was prepared with the aim of analyzing and assessing the graduate thesis with the subject of cost prepared in Turkey. For this purpose; thesis in the field of cost which were completed between 1990 and 2020 registered in the database of the Council of higher Education National Thesis Center were analyzed. 1723 graduate thesis written in the area of cost found in National thesis Center was evaluated. The Theses that constitute the research data were analyzed with content analysis and classified on the basis of science. According to the results it was revealed that the theses written in the field of cost were not only constituted in social sciences like economics and management; but also in technical sciences such as engineering, architecture and medicine. This result should also be considered as an indication that field of cost is interdisciplinary in future studies of all disciplines.

Keywords: Cost, Cost Accounting, Postgraduate Thesis

TÜRKİYE’DE 1990-2020 YILLARI ARASINDA MALİYET ÜZERİNE YAPILAN LİSANSÜSTÜ TEZ ÇALIŞMALARI ÜZERİNE BİR ARAŞTIRMA

ÖZET

Her ne kadar muhasebe alanının bir alt bölümü olarak değerlendirilse de üretilmesi planlanan mamul veya hizmetin maliyetinin hesaplanması her sektör ve her bilim dalının ortak çalışma alanı olarak değerlendirilmektedir. Maliyet hesaplamasının disiplinler arası bir konu olması nedeni ile bu çalışma, Türkiye’de maliyet konulu hazırlanan lisansüstü tezlerin analiz edilmesi ve değerlendirilmesi amacı ile hazırlanmıştır. Bu amaçla, araştırma kapsamında Yükseköğretim Kurulu Başkanlığı Ulusal Tez Merkezi veri tabanına kayıtlı 1990-2020 yılları arasında tamamlanan maliyet alanındaki tezler incelenmiştir. Ulusal Tez Merkezi’nde yer alan maliyet alanında

* *Araştırma Makalesi, (Research Article), Gönderilme Tarihi (Received): 23/01/2021, Kabul Tarihi (Accepted): 16/03/2021, iThenticate Benzerlik Oranı: %10*

** Akdeniz University, Korkuteli Vocational School, Accounting and Tax Applications, burcintutcu@akdeniz.edu.tr, ORCID: 0000-0003-1427-0741

*** Akdeniz University, Korkuteli Vocational School, Accounting and Tax Applications, htalas@akdeniz.edu.tr, ORCID:0000-0001-8590-273X

yazılmış 1.723 lisansüstü tez değerlendirilmiştir. Araştırma verilerini oluşturan tezler içerik analizi ile incelenmiş ve bilim dalı bazında sınıflandırılmıştır. Çalışmanın sonucunda, maliyet alanında yazılan tezlerin sadece işletme ve ekonomi gibi sosyal bilimler alanlarında üretilmediği, mühendislik ve mimarlık gibi teknik bilim dallarında ve tıp alanında da çalışıldığı ortaya konmuştur. Bu sonuç aynı zamanda bütün bilim dallarında bundan sonra yapılacak akademik çalışmalarda maliyet konusunun disiplinler arası olduğunu da bir göstergesi olarak düşünülmelidir.

Anahtar Kelimeler: Maliyet, Maliyet Muhasebesi, Yüksek Lisans Tezleri

1. Introduction

Cost is defined as the total amount of all kinds of expenditures and sacrifices made in order to produce a product or a service. Knowing the cost of the product or the service planned to be produces is used as a decision making tool in many topics such as production, order price, profit, sales volume, market analysis and competitiveness. Cost as a decision making tool should not be considered as a specific area to a particular discipline.

In the light of these evaluations, determining the cost should be considered as an important indicator for all field of science not only in social sciences. Cost information is required when considered on the basis of each activity in every business type.

In this study a total of 1723 graduate theses, comprised of 294 doctoral theses, 1342 master's theses, 86 specialty thesis in medicine and 1 dentistry specialty thesis registered to National Thesis Center in Turkey were evaluated between 1990 and 2020. The fact that there are studies in the field of cost in engineering and health sciences as well as social sciences reveals that this topic is interdisciplinary. It is expected that this research would provide an insight for future academic studies

2. Literature Research

There are different studies analyzing postgraduate theses in the literature. The articles evaluating the postgraduate thesis studies in the field of

business, economics and accounting are shown in Table 1. As can be seen from the table, which is based on the publication date, it is seen that the number of recent studies is high.

Table 1.Literature Research

Author(s)	Publication Date
Gönül ALKAN	2014
Article Topic	
A Reseach About Graduate Thesis Studies in Accounting Field in Turkey (1984-2012)	
Study Made	
Theses are classified by using the content analysis method according to certain criteria such as their subjects, the method used, the proposal developed and the contribution to the field.	
Result	
Turkey has been suggested that the studies that examined the type of bibliometric analysis accounting for the type of bibliometric analysis is the limited number of different methods and accounting should be performed depending on many factors.	
Author(s)	Publication Date
Aysel GÜNDOĞDU	2017
Article Topic	
Analysis of Academic Studies Which Was published in Banking Area in Turkey	
Study Made	
With doctoral and master's theses are written in the banking sector in Turkey between the years 2008-2015 has established national and domestic examined articles published in international journals.	
Result	
Postgraduate theses written in banking between 2008-2015, mostly performance analysis, loans, regulations and Basel-risk management topics; In the articles published between the same years, they are on credit, regulation, customer relationship management and performance analysis.	
Author(s)	Publication Date
Mustafa Atilla ARICIOĞLU, Şükran GÖKCE, Meral ERDİREN ÇELEBİ	2017
Article Topic	
Academic Approach to Problems and Solutions of Family Businesses: An Analysis in the Context of Graduate Theses	
Study Made	
In the study, family businesses were examined in the context of graduate thesis studies, which are an important indicator, leading and determining tool in academic terms, and tried to be analyzed in terms of problem-solution causality.	
Result	
In the theses examined, researchers do not consider the main problem or "salvation" of family businesses. It is observed what they see in institutionalization. This is followed by issues such as generation conflict, sustainability, devolution, professional management, organizational commitment, leadership, strategy, financial problems. When we look at the solutions and suggestions offered, institutionalization is again expressed as the solution of many problems.	

Author(s)	Publication Date
Çağla DEMİR,Özkan SARISOY	2017
Article Topic	
Literature Review of Studies in Accounting Ethics in Turkey	
Study Made	
Turkey in the last 10 years (2006-2015) published 70 refereed journal articles and has been obtained from the Board of Higher Education Thesis Center obtained from the web site consisting of 19 theses were based on sampling.	
Result	
As a result of the analyses done, it is revealed that the studies to be carried out in the field of accounting ethics can and should increase.	

Author(s)	Publication Date
Furkan BEŞEL	2017
Article Topic	
Bibliometric Analysis of Graduate Thesis Made in Turkey in the field of Treasury (2003-2017)	
Study Made	
It was designed to examine postgraduate theses in the field of treasury. 1714 graduate theses made in the departments of "Finance", "Financial Law" and "Finance and Economics" in the period of 2003-2017 from the database of the National Thesis Center of the Higher Education Institution were analyzed using the document review technique.	
Result	
It has been suggested that women should be encouraged to receive postgraduate education in the field of treasury, allowing graduate thesis authors to access theses in terms of providing access to information in the field, and directing graduate students in terms of empirical applications in the field of treasury, where empirical applications are gaining importance.	

Author(s)	Publication Date
Nurdan ORAL KARA, Gözde YEŞİLAYDIN, Yasemin HANCIOĞLU	2018
Article Topic	
A Research About Graduate Theses Performed in Competition Field in Turkey	
Study Made	
In the study, postgraduate theses in the field of social sciences between 2010 and 2017 were analyzed using analysis methods.	
Result	
In line with the data obtained from the analyzes, 13.29% of the theses are in enterprises operating in more than one sector; It has been stated that 12.03% is applied in Tourism, Accommodation, Food and Beverage Services sector and 10.13% is applied in Business and Management sector.	

Author(s)	Publication Date
Mehmet DURGUT, Abdülkadir PEHLİVAN	2018
Article Topic	
A Research About Graduate Thesis Which is About Accounting (Financial Reporting) Standards in Turkey (1987-2017)	
Study Made	
Between the years 1987-2017 in Turkey, accounting and graduate thesis work done on financial reporting standards, information is presented to users of statistical results analyzed using content analysis method.	
Result	
Content analysis results based on document analysis, one of the qualitative research methods for graduate thesis studies on standards, were presented.	

V

Author(s)	Publication Date
Özlem DOĞAN, Fırat ALTINKAYNAK	2019
Article Topic	
A Content Analysis for Postgraduate Theses Written in Accounting and Finance	
Study Made	
In the study, graduate theses are primarily classified according to year, genre, language, subject and advisor titles, but also different criteria such as the application sector and the subject country are evaluated.	
Result	
As a result of the study, it was revealed that the most postgraduate studies were done in the field of "Accounting" by years. When examined over the years, it has been determined that the subjects dealt with at the master's and doctoral level in both fields differ.	

Author(s)	Publication Date
İsmail KARAKULLE, Ömer KARADEMİR, M. Volkan ARMAĞAN	2019
Article Topic	
Financial Literacy: A Theoretical Study Towards prepared Graduate Thesis in Turkey	
Study Made	
Between the years of 2009-2018 in Turkey, "Financial Literacy" is to evaluate graduate thesis written about. The data source of the research was determined in the thesis scanning center of the Council of Higher Education, and 27 graduate theses on financial literacy, which were allowed access. Meta evaluation research has been done.	
Result	
The type of the thesis, the date of application, the university and institute where the thesis was applied, the gender status of the thesis author, the title of the supervisor, the research type and model, the sample type, and the data analysis.	

Author(s)	Publication Date
H. Pınar KAYA	2019
Article Topic	
Evaluation of the PhD Dissertation Written Turkey in the Control Area	
Study Made	
A total of 128 doctoral dissertations written in the field of audit between 1995-2018; subject, year, university, number of pages, research approach, writing language, gender of thesis authors and title of thesis advisors.	
Result	
The analysis results obtained from the examined theses were presented.	

Author(s)	Publication Date
Elif Tuğba ŞAHİN, Funda KARAASLANOĞLU, Mert AKINET	2019
Article Topic	
Analytical Study of Graduate Thesis in Marketing Made in Turkey (2013-2018)	
Study Made	
Postgraduate theses prepared in the field of marketing in the National Thesis Center of the Council of Higher Education; subject distribution, analysis type, study method, university, city and region distribution, thesis publication language and bibliography weight.	
Result	
Master's thesis studies are more than doctoral thesis studies; that more thesis work is done in state universities; these are mostly prepared in Istanbul, Marmara Region and least in Southeastern Anatolia Region; It has been determined that postgraduate theses are studied with more quantitative methods and mostly consumer behavior, integrated marketing communication and green marketing topics.	

Author(s)	Publication Date
Serkan DİLEK, Hayrettin KESGİNGÖZ, Onur GÜNEY	2020
Article Topic	
Bibliometric Profile of Graduate Thesis on Competitiveness and Competitive Advantage threads in Turkey (2000-2018)	
Study Made	
Master's and doctoral theses with "Competitiveness" and "Competitive Advantage" in their title between 2000-2018 were obtained from the website of the Council of Higher Education and examined.	
Result	
A bibliometric study has been carried out on the theses. It was determined that the thesis studies on Competitiveness and Competitive Advantage were led by Gazi and Dokuz Eylül Universities, and the number of theses on these concepts increased between 2010 and 2013.	

3. Methodology

One of the duties of universities is to support the sectors with their studies. It is known that postgraduate studies in the field of cost are used as a basis for different sectors. In this study, postgraduate theses written at cost are analyzed as types, years of publication, universities, departments, theses and topics written by departments, and the results are aimed to be a source for other studies. Theses about cost registered in the database of the Council of Higher Education Thesis Center were examined, and postgraduate studies between 1990-2020 were evaluated.

3.1. Research Method

The study was prepared using qualitative research method. In qualitative research, it is known that the researcher tries to reach a deep understanding about the subject. With this aspect, it gives importance to subjective perspective. While numerical data and statistics are less involved in qualitative research, more emphasis is placed on oral and qualitative analysis. (Karataş, 2015,63). Document review method was used to collect data. Postgraduate theses written in the field of cost have been scanned from the database of the Council of Higher Education Thesis Center with the keywords 'Cost' and 'Costing'. Data on these concepts were collected and analyzed in depth with content analysis.

3.2. Aim Of Study

The aim of this study is to contribute to new studies to be written in the literature by analyzing the cost theses written between 1990-2020 in depth.

3.3. Findings

As a result of the examination of the database of the Council of Higher Education Thesis Center, 1723 graduate theses on cost between 1900-2020 were reached. Of these examined theses, 1342 were written in master's degree, 294 in doctorate, 86 in medical specialty, and 1 in dentistry. The distribution of these postgraduate theses by years in five-year periods is shown in Table 2.

Table 2:. Distribution of Graduate Theses by Years

	Doctoral	Postgraduate	Speciality in Medicine	Speciality in Dentistry	Total
1990-1995	23	99			122
1996-2000	40	184	2		226
2001-2005	35	216	6		257
2006-2010	62	254	17		333
2011-2015	61	226	31		318
2016-2020	73	363	30	1	467
Total	294	1342	86	1	1723

It is seen that the most postgraduate theses were written between 2016-2020. Especially master theses have increased in number compared to the previous period

Table 3:. Distribution of Graduate Theses According to Departments

	1990-1995	1996-2000	2001-2005	2006-2010	2011-2015	2016-2020	Toplam
Engineering	33	69	98	111	89	147	547
Education	1	4	2	0	3	1	11
Economics	8	8	11	9	12	17	65
Hospital	6	8	14	37	64	89	218
Business	48	117	117	159	114	167	722
Architecture	11	12	8	1	5	15	52
Tourism	9	4	2	7	12	9	43
Other	6	4	5	9	19	22	65
Total	122	226	257	333	318	467	1723

When we look at the distribution of graduate theses by departments in Table 3, it is seen that most of the theses belong to the department of business with 722. In second place is engineering department with 547 theses. Health departments are also in third place with 218 theses. As can be understood from Table 3, different departments have prepared a postgraduate thesis in the field of cost.

Table 4: Distribution of Graduate Theses of Foundation and State Universities

	Foundation University	State University	Total
1990-1995	2	120	122
1996-2000	3	223	226
2001-2005	2	255	257
2006-2010	28	305	333
2011-2015	69	249	318
2016-2020	75	392	467
Total	179 (%10,38)	1544 (%89,62)	1723

Considering the distribution of postgraduate theses in state and foundation universities, it is seen that 10.38% of the written theses are in foundation universities and 89.62% in state universities.

Table 5: Distribution of Graduate Theses to Universities

University Name	Graduate Study Numbers	University Name	Graduate Study Numbers
İstanbul Technical University	150	Gaziantep University	16
Marmara University	133	İnönü University	16
Gazi University	101	Bahçeşehir University	15
İstanbul University	101	Boğaziçi University	15
Orta Doğu Teknik University	70	Ege University	15
Dokuz Eylül University	68	İhsan Doğramacı Bilkent University	15
Sakarya University	65	Muğla University	15
Hacettepe University	50	Pamukkale University	15
Yıldız Teknik University	45	Adnan Menderes University	14
Süleyman Demirel University	42	Kahramanmaraş Sütçü İmam University	13
Çukurova University	38	Niğde University	13
Ankara University	35	Sağlık Bilimleri University	13

Anadolu University	34	Celal Bayar University	12
Atatürk University	34	Çanakkale Onsekiz Mart University	12
Dumlupınar University	32	Gebze Yüksek Teknoloji Enstitüsü	12
Akdeniz University	30	Cumhuriyet University	10
Okan University	29	Düzce University	10
Selçuk University	29	Eskişehir Osmangazi University	10
Bursa Uludağ University	22	İstanbul Trade University	10
Beykent University	21	Karabük University	10
Karadeniz Teknik University	20	Mersin University	10
Kocaeli University	19	The Others*	267
Başkent University	17	Total	1723

*Universities with less than 10 theses were not included in the list.

In 2020 there are 74 foundation and 129 state universities in Turkey. Total number of universities in Turkey is 203 (<https://istatistik.yok.gov.tr/>). Postgraduate thesis was written in 128 different universities in the field of cost. As can be seen from Table 5 that the university where the most postgraduate thesis was written is Istanbul Technical University. It is seen that Marmara University ranks second with 133 theses.

Table 6: Distribution City of Theses According to Universities Cities

University Name	Graduate Study Numbers	Ratio	City
İstanbul Teknik University	150	8,71%	İstanbul
Marmara University	133	7,72%	İstanbul
Gazi University	101	5,86%	Ankara
İstanbul University	101	5,86%	İstanbul
Orta Doğu Teknik University	70	4,06%	Ankara
Dokuz Eylül University	68	3,95%	İzmir
Sakarya University	65	3,77%	Sakarya
Hacettepe University	50	2,90%	Ankara
Yıldız Teknik University	45	2,61%	İstanbul
Süleyman Demirel University	42	2,44%	İsparta

Table 6 shows the proportional distribution of ten universities with the most postgraduate thesis written. There are 4 universities from Istanbul, 3 from Ankara, 1 from Izmir, 1 from Sakarya and 1 from Isparta in the list.

Table 7: Distribution of Engineering Theses According To Departments

Engineering Departments	Count Of Theses
Civil Engineering	196
Industry and Industrial Engineering	71
Mechanical Engineering	57
Enviromental Engineering	45
Computer Engineering Sciences-Computer and Control	37
Electric- Electronic Engineering	23
Agriculture Engineering	22
Engineering Sciences	20
Energy	19
Mining Engineering and Mining	14
Textile and Textile Engineering	8
Marine Engineering	7
Metallugircal Engineering	7
Geological Engineering	4
Chemical Engineering	4
Forestry and Forestry Engineering	3
Marine	1
Earthquake Engineering	1
Physics and Physic Engineering	1
Food Engineering	1
Aviation Engineering	1
Nuclear Engineering	1
Seramic Engineering	1
Airoplane Engineering	1
TOTAL	545

In Table 3, it was seen that the most postgraduate thesis was written in the field of engineering after business. In Table 7, the distribution of

theses written in the field of engineering is given. The most theses with 196 copies have been written in the field of civil engineering. This is followed by industry with 71 and mechanical engineering with 57. The department with the most graduate thesis is determined as business. The subject distribution of theses written in the field of business administration is shown in Table 8.

Table 8: Distribution of Business Graduate Theses According to Subject

Subject	Count of Theses
Activity Based Costing	171
Cost Elements and Management	105
Sectoral Application	102
Cost Accounting	85
Target Costing	57
Costing Systems	37
Cost Model Suggestions	26
Strategic Cost Management	18
Net Cost	14
Cost Calculation	14
Activity Based Costing Depending on Period	13
Cost Analysis	13
Total Quality	12
Cost Control	12
Product Life Cycle Costing	10
Joint Cost	9
Benefit-Cost Analysis	7
Kaizen Costing	6
Resource Consumption Accounting	5
Traditional Costing	4
Supply Chain	2
Total	722

Looking at the postgraduate theses written in the field of cost, it was seen that the most preferred topics were activity-based costing, cost elements,

and management and sector applications. It can be said that not every cost issue is used equally for researchers.

4. Conclusion

Making a profit is one of the main objectives of the establishment. Continuous change and development of technology expose businesses to severe competitive conditions. Businesses make significant investments in cost in order to ensure their continuity and increase their profits. As a result of the fact that the concept of cost has become so important for businesses, studies in this field in universities are also increasing.

In this study in Turkey in social, technical and examining postgraduate thesis related costs in various fields which shows changes over time of the variables in the thesis were determined. First, graduate thesis studies were examined according to their specialties. It has been determined that the most graduate thesis is written in the field. Another finding is that cost issue is also used in medical specialty. One of the important findings in the study is that the subject of cost is used significantly in the field of engineering. It is seen that the theses written in the field of Civil Engineering are higher than the total of theses written in the fields of economy, architecture and tourism. In Turkey, the cost of post-graduate theses areas are known to be prepared in the vast majority of public universities. Most theses in the field have been written in Istanbul Technical University. One of the reasons for this is that there are many engineering departments.

As a result, in this study, 1723 cost thesis registered in the database of the Council of Higher Education Thesis Center was examined and the general perspective of graduate studies was tried to be revealed. It is thought that it will contribute to the literature since there is no study in the literature that covers such a long period and different chapters. It is

thought that studies to be carried out in this field will contribute to researchers in determining the subjects that have not been studied.

References

- Alkan, G. (2014). Türkiye’de Muhasebe Alanında Yapılan Lisansüstü Tez Çalışmaları Üzerine Bir Araştırma (1984-2012) . Muhasebe ve Finansman Dergisi , (61), 41-52. DOI: 10.25095/mufad.396448
- Arıcıoğlu, M, Gökce, Ş, ErdiRen Çelebi, M. (2017). Aile İşletmelerinin Sorunları ve Çözümlerine Akademik Yaklaşım: Lisansüstü Tezler Bağlamında Bir İnceleme. ODÜ Sosyal Bilimler Araştırmaları Dergisi (ODÜSOBİAD) , 7(1) , 59-72.
- Beşel, F. (2017). Türkiye’de Maliye Alanında Yapılmış Lisansüstü Tezlerin Bibliyometrik Analizi (2003-2017) . International Journal of Public Finance, 2 (1) , 27-62. DOI: 10.30927/ijpf.327823
- Büyükmirza, K. (2013). Maliyet ve Yönetim Muhasebesi.
- Demir, Ç, Sarısoy, Ö. (2017). Accounting Ethics Research In Turkey: A Literature Review. Muhasebe Bilim Dünyası Dergisi, 19 (2) , 415-438.
- Dilek, S, Kesgingöz, H, Güney, O. (2020). Türkiye’de Rekabet Gücü ve Rekabet Avantajı Konularındaki Lisansüstü Tezlerinin Bibliyometrik Profili (2000-2018) . Econder International Academic Journal, 4(1), 6-25. DOI: 10.35342/econder.688272
- Doğan, Ö, Altınkaynak, F. (2019). Muhasebe Ve Finans Alanında Yazılmış Lisansüstü Tezlere Yönelik Bir İçerik Analizi . İşletme Bilimi Dergisi , 7 (1) , 131-150 . DOI: 10.22139/jobs.480475
- Durgut, M, Pehlivan, A. (2018). Muhasebe (Finansal Raporlama) Standartlarına Yönelik Türkiye’de Hazırlanan Lisansüstü Tez Çalışmaları Üzerine Bir Araştırma: 1987-2017 DÖNEMİ . Muhasebe ve Vergi Uygulamaları Dergisi , () , 1-23 . DOI: 10.29067/muvu.340820
- Gündoğdu, A. (2017). Türkiye’de Bankacılık Alanında Yayınlanmış Akademik Çalışmaların Analizi . Bankacılık ve Sermaye Piyasası Araştırmaları Dergisi , 1 (1) , 1-11 .
- Karaaslanoğlu, F, Akımet, M, Şahin, E. (2019). Türkiye’de Pazarlama Alanında Yapılan Lisansüstü Tezlerin Analitik İncelemesi (2013-2018) . Finans Ekonomi ve Sosyal Araştırmalar Dergisi, 4 (3) , 260-269
- Karakulle, İ, Karademir, Ö, Armağan, M. (2019). Finansal Okuryazarlık: Türkiye’de Hazırlanan Lisansüstü Tezlere Yönelik Teorik Bir İnceleme . Econder International Academic Journal, 3(1) 99-114. DOI: 10.35342/econder.557820
- Karataş, Z. (2015). Sosyal Bilimlerde Nitel Araştırma Yöntemleri. Manevi Temelli Sosyal Hizmet Araştırmaları Dergisi, 1(1), 62-80.
- Kaya, H. (2019). Türkiye’de Denetim Alanında Yazılmış Olan Doktora Tezlerinin Değerlendirilmesi. Karabük University Sosyal Bilimler Enstitüsü Dergisi ,9(2) , 556-576.

Oral Kara, N, Yeşilaydın, G, Hancıoğlu, Y. (2018). Türkiye’de Rekabet Alanında Yapılan Lisansüstü Tezlere Yönelik Bir İnceleme. Süleyman Demirel University Vizyoner Dergisi, 9(20), 149-165. DOI: 10.21076/vizyoner.356682