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1st Tarumanagara International Conference on the Applications of Technology and Engineering 2018

Preface

On behalf of the organising committee of 1st Tarumanagara International Conference on the Applications of Technology and Engineering (TICATE) 2018, I would like to welcome all delegates to the Campus of Universitas Tarumanagara (UNTAR) in Jakarta, Indonesia with great pleasure. Being held from November 22 to 23, 2018 the international conference is organized by UNTAR and technically sponsored by IOP Conference Series: Materials Science and Engineering (MSE).

Universities play an important role in facing the rapid development of technology and engineering in recent digital era. The rapid developments of technology and engineering impact various aspects of people's life in welcoming the era of Industry 4.0. The biggest challenge faced by universities due to these rapid developments is how the results of research and technological innovation can contribute to the people's prosperity. As a form of contribution from universities in responding this challenge, Universitas Tarumanagara hold the 1st TICATE 2018 with the theme of: "The Implementation of Research Results and Innovation for People's Prosperity".

This international conference activity is expected to be a forum of discussion, networking and exchanging ideas among researchers, academicians, and practitioners to work together to pursue research and technological innovation that can be used to contribute to people's prosperity.

Over 160 papers have been submitted to 1st TICATE 2018 from 6 different countries, those are Germany, France, Australia, Taiwan, Malaysia, and Indonesia. We categorized the papers under seven groups, namely Mechanical Engineering and Technology; Electrical Engineering; Industrial Engineering; Civil and Environmental Engineering; Food and Agriculture Technology; Informatic Engineering & Technologies; and Medical & Health Technology. All papers, regardless of their standing or initial classification, were available for general discussion at the committee's meeting.

Our special thank goes to our Rector, Prof. Dr. Agustinus Purna Irawan, who has initiated this conference, Dr. Svann Langguth as Head of Science and Technology Division from the Embassy of the Federal Republic of Germany in Jakarta, Prof. Dr. Mohd. Zulkifly bin Abdullah as Professor from Universiti Sains Malaysia, and Dr. Ir. Yono Reksoprodjo, DIC as Vice President Corporate Affairs of Sintesa Group, as our pleanary speakers and Bank DKI, Bank Mandiri, Tarzan Photo, Hyperzone Computer, as our patrons. I would like to give special thanks to all of you for the interesting keynote speech at this international conference.

We also thank all individuals and organisations such as the members of international editorial board, the conference organisers, the reviewers, and the authors, for their contribution in making TICATE 2018 as a successful international conference and a memorable gathering event. I am also grateful for the support of publication service of IOP Conference Series: Materials Science and Engineering (MSE).

We hope that the conference could present you wonderful memories to bring home in addition to new insights and friendship congregated during the event. We truly value your participation and support for the conference. We hope that you will enjoy TICATE 2018 and Betawi culture and tradition in Jakarta.

Dr. Hugeng, S.T., M.T. (SMIEEE)

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Peer review statement

All papers published in this volume of *IOP Conference Series: Materials Science and Engineering* have been peer reviewed through processes administered by the proceedings Editors. Reviews were conducted by expert referees to the professional and scientific standards expected of a proceedings journal published by IOP Publishing.

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Recommendation Product Based on Customer Categorization with K-Means Clustering Method

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IOP Conf. Series: Materials Science and Engineering **508** (2019) 012123 doi:10.1088/1757-899X/508/1/012123

Recommendation Product Based on Customer Categorization with K-Means Clustering Method

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Abstract.Nowadays, web shopping is more than selling product. Many web shopping have basic analytics system to analyze customer data, transaction data including demographics, age and gender. They add many features in web shopping to maintain customer loyalty. In this research, we made a web shopping that can analyze customer shopping behavior. We used FM (Frequency and monetary) analysis based on a "transaction" data set. We categorize the customer based on how often they buy, how much they buy and how much the value of purchased item. We use K-Means algorithm to cluster the customer based on their transaction. Analyzing and understanding customers' buying behavior can help the store to know what they are looking for. Therefore, at every customer web page that is in the same cluster will appear recommended products accordance with the transaction that has been done. Recommendation Products are presented is the prediction of the type of goods that may be chosen by the customer. So that the recommendation products that appear on web pages between customers will be different. The data used for this test is "Istana Accessories" store data from January to June 2014. The results show that recommendation product from K-Means algorithm successfully obtained and displayed on the customer page.

1. Introduction

E-commerce or generally called electronic commerce is the distribution, purchase, sale, marketing of goods and services through the internet or computer network [1]. All components in the trade are applied to e-commerce such as product services, payment methods, shipping methods, and ways of promotion.

In general, in e-commerce based websites there are supporting features that aim to increase sales, such as top products and product recommendations. Based on the survey results from the Istana Accessories Shop, determining the top product is based on previous sales transactions. If many customers buy a product, it can be said that the product is a top product. Product recommendations are based on customer purchasing habits where looking for relationships between different items (products) in transaction data.

The accessories shop for Istana Accessories gadget is located in Roxy Square. This store provides various kinds of gadget accessories and serves sales to customers, most of which are retail stores. At this time, Istana Accessories does not have a website that is a place to facilitate customers in choosing products sold, to know detailed information about each product, and to order purchases. If the customer wants to do these three things, the customer must contact the shop owner through the chat application.

In order to create more efficient shopping activities, an online sales system was built using a website. Making a website for Istana Accessories presents several features, but its main features are focused on displaying product recommendations.

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The recommendation product feature is created by applying K-means. Product recommendations are based on the relationship between a product and other products that are purchased together to form a pattern of product purchases.

The K-Means algorithm is used to determine top products and product recommendations that are based on customer purchasing characteristics. K-Means group customer based on attributes. For example, using the frequency shopping attribute (frequency) and the total monetary transaction at a certain time period. With the grouping of customers, transactions can be analyzed by a group of customers in a group. The products contained in the transaction can be made as top products and product recommendations. Top products are based on a product that has the highest sales quantity while other products are made product recommendations. Because of its personal nature of customers, top products and product recommendations displayed for each customer can be the same or different because it depends on the characteristics of the purchase and grouping.

Testing this application uses data from the Istana Accessories Shop. It is expected that through the existence of a website, it can expand sales marketing and increase customer loyalty.

Clustering is a data analysis method, which is often included as one of the data mining methods. The aim is to group data with the same characteristics into the same category and data with different characteristics into other categories [5]. The purpose of this clustering process is to group data into a category, so that objects in a category have a great resemblance to other objects in the same category, but differ from objects in other categories. This e-commerce system uses clustering with partition-based clustering. Partition approach is used because the number of existing categories has been determined first, then members are determined from each category.

2. Method

2.1 Algoritma K-Means

The K-Means method is one method of clustering data to partition existing data into one or more clusters / groups [2].

The K-Means method partitioned the data into clusters so that data that had the same characteristics was grouped into the same cluster and data that had different characteristics grouped into other groups. The purpose of clustering is to group objects until the distance of each object to the center of the group in a group is minimum.

The process of grouping using K-Means is generally carried out with the basic algorithm as follows [2]:

1. Determine the number of clusters.
2. Allocate data into clusters randomly.
3. Calculate the centroid (average) of the data in each cluster.
4. Allocate each data to the nearest centroid.
5. Return to stage 3, if there are still data that move clusters or if changes in the centroid value are above the specified threshold value.

To calculate the centroid cluster i, vi, use the following formula:

$$v_{ij} = \frac{\sum_{k=1}^{N_i} X_{kj}}{N_i} \quad (1)$$

Where:

Ni: Amount of data that is a member of the i cluster.

The K-Means method has the following characteristics [2]:

1. K-Means are very fast in the clustering process and are very sensitive to random generation of early centroids.
2. Allows a cluster to have no members.
3. The results of clustering with K-Means are unique (always changing), sometimes good or bad

2.2 Euclidean Distance

The Euclidean Distance method is used to calculate the distance between data and centroid. This measurement is based on the value of the object in each dimension in learning. Euclidean Distance can calculate the distance between data as much as two dimensions and more. Euclidean Distance formula with 2 objects and 2 dimensions [5]:

$$D_{pq} = \sqrt{(p_2 - p_1)^2 + (q_2 - q_1)^2} \qquad (2)$$

Information:
Dpq = distance of 2 objects
X1 = the first dimension of the first object
X2 = the first dimension of the second object

2.3 Silhouette Coefficient

One of the evaluation methods used in the K-Means clustering is the silhouette coefficient method. This method serves to test the quality of the resulting cluster. This method is a cluster validation method that combines the cohesion and separation method [3]. Cohesion measures how closely related objects in a cluster. Separation measures how different a cluster is with other clusters.

To calculate the silhoutte coefficient value, distance between objects is required by using the Euclidean Distance formula. After that the steps to calculate the silhoutte coefficient values are as follows:

1. For each object i, calculate the average distance from object i with all objects in one cluster. An average value is called a (i).
2. For each object i, calculate the average distance from object i with the object in the other cluster. Of all distances the average takes the smallest value. This value is called b (i).
3. After that, for objects i have a silhoutte coefficient value:

$$\mathbf{s(i) = (b(i) - a(i)) / max(a(i), b(i))} \qquad (3)$$

The results of the calculation of the silhoutte coefficient value can vary between -1 to 1. The clustering results are said to be good if the silhoutte coefficient value is positive (a (i) <b (i)) and a (i) close to 0, so that the maximum silhoutte coefficient value will be generated that is 1 when a (i) = 0. So it can be said, if s (i) = 1 means that object i is already in the right cluster. If the value of s (i) = 0, the object i is between two clusters so that the object is not clear must be included in cluster A or cluster B. However, if s (i) = -1 means that the cluster structure generated is overlapping, so object i is more accurately included in another cluster. The average value of the silhoutte coefficient of each object in a cluster is a measure that shows how tight the data is grouped in the cluster. The following is the silhoutte value based on Kaufman and Rousseeuw.

0.7 < SC <= 1	Strong Structure
0.5 < SC <= 0.7	Medium Structure
0.25 < SC <= 0.5	*Weak Structure*
SC <= 0.25	*No structure*

3. Result and Discussion

Tests conducted on the application of determining the top product and product recommendation consist of testing the module and testing the data. Testing of the module aims to test whether each module in the application is running well. Testing of data is a test carried out to find out whether the system runs according to the concept and whether the top product and recommendation product produced form the correct pattern.

Testing of the data consists of top product testing and product recommendation for the application of K-Means and evaluation of K-Means clustering. The data used for this test is real data from January to June 2014.

The testing of the K-Means clustering was carried out using 6 months of data, namely from January 1, 2014 to June 30, 2014. Sales transactions that occurred for 6 amounted to 327 and 51 customers in the transaction.

In this test, customer groupings are carried out in several conditions, namely group division into 2 clusters (k = 2), 3 clusters (k = 3), 4 clusters (k = 4), 5 clusters (k = 5), 6 clusters (k = 6), and 7 clusters (k = 7). The group division aims to see the distribution of customers from the smallest grouping to larger groupings and to see the distribution of top products and recommendation products that result from different groupings.

Determination of the minimum number of product appearances is based on experiments conducted before testing. This test sets a minimum number of product appearances is 5. This value has been adjusted for transaction data for 6 months. Running clustering is done for k = 2, k = 3, k = 4, k = 5, k = 6, k = 7. The initial seed (centroid) is taken in certain rows of data

One of the test results, namely grouping 2 clusters is shown in Table 1.

Tabel 1. *Clustering K-Means* 2 *Cluster*

Seed Awal		**Cluster**	**Pelanggan**	**Top Product**	**Recommendation Product**
Freq	**Mone**				
5	5	1	ANGELACC, TAKAPHONE, UNRI, GALLERYSMART, MUARACELL, LILY, HAPPYCELL, MEGAPHONE, PLANET, SURYACELL, KCELL, DJPONSEL, TWINS, BOYCELL, MAJESTY, SLICKSTONE, 88SELULARSHOP, PANCARASA, NOVEMBERPHONE, DNIZ, YUNICELL, KINGFORD, GOLDWIN, GALLERYPHONE, SIS, JOECELL, BLESS, ELLO, CHACHA, REVOLUTION	FUZE IPHONE 5	FLIP CASE GALAXY CORE, FLIP CASE GALAXY GRAND, BATERAI BB 9300 ORI, VIORA 5600MAH, VIORA 8400MAH, UME ENIGMA GALAXY GRAND, UME ENIGMA GALAXY GRAND 2, FUZE IPHONE 4, FLIP CASE GALAXY ACE 3
1	1	2	BBONE, SURYAPHONE, REDSTAR, GRAHAPHONE, JIITAPHONE, IACELL, MEGASHOP, RATUPONSEL, EZRA, PARADISESELULAR, PANCASELL, PRINCESS, NEYCELL, SPIRITPHONE, MULTICOM, STRAWBERRYCELL, MAKRO, MAGICCELL, ANDYCELL, ZENCOM, RUBYCELL	FUZE IPHONE 5	FLIP CASE GALAXY CORE, FLIP CASE UNIVERSAL 7", FLIP CASE GALAXY GRAND, FUZE IPHONE 4

Based on the test results in the table above, it can be seen that cluster 1 and cluster 2 are filled by a group of customers who have similar characteristics in terms of frequency and monetary. Cluster 1 is filled by 30 customers. This group of customers gets top products and product recommendations.

Cluster 1 is filled by 30 customers. This customer group gets the same top product and recommendation product. The top product shown is FUZE IPHONE 5. The product recommendations shown are FLIP CASE GALAXY CORE, FLIP CASE GALAXY GRAND, BATERAI BB 9300 ORI, VIORA 5600MAH, VIORA 8400MAH, UME ENIGMA GALAXY GRAND, UME ENIGMA GALAXY GRAND 2, FUZE IPHONE 4, FLIP CASE GALAXY ACE 3.

Cluster 2 is filled by 21 customers. This customer group gets the same top product and recommendation product. The top product shown is FUZE IPHONE 5. *The product recommendations shown are* FLIP CASE GALAXY CORE, FLIP CASE UNIVERSAL 7", FLIP CASE GALAXY GRAND, FUZE IPHONE 4.Based on the results of grouping on the table, it can be explained that cluster 1 is a group of customers with high frequency of shopping and total transactions. While cluster 2 is a group of customers with a low frequency of shopping and total transactions. Evidence of testing from clustering 2 clusters is shown in Figure 1.

Figure 1. Top and Recommendation Product

Based on testing, it is known that the formation of 2 clusters and 3 clusters provides groupings of customers in each cluster. While in the formation of 4 clusters of up to 7 clusters, there are clusters that do not have members (customers).

3.1 Silhouette Coefficient Evaluation

K-Means evaluation using the Silhouette Coefficient method. The value of the silhouette coefficient is used to evaluate the cluster structure of k = 2 to k = 7. The average silhouette coefficient value and status structure of 2 clusters up to 7 clusters are shown in Table 2.

Tabel 2. Experiment result Average Silhouette Coefficient

Cluster	Average	Structure Status
2	0.55143678160487	Medium Structure
3	0.52291987994027	Medium Structure
4	0.3921899099552	Weak Structure
5	0.31375192796416	Weak Structure
6	0.26145993997013	Weak Structure
7	0.2241085199744	No Structure

Based on the table above, it is known that the two best average silhoutte coefficient values come from the evaluation of 2 clusters and 3 clusters that have the status of "Medium Structure". The status of "medium" indicates that in one cluster a group of customers is formed which has the same characteristics. Then between one cluster and another cluster has different customer characteristics.

Based on the evaluation results, candidates for the number of suitable clusters are 2 and 3 because they have

the best structure status, namely medium. The value of the average silhouette coefficient 2 cluster is 0.55143678160487 while the 3 clusters are 0.52291987994027. This value does not show a significant difference. However, because the value of the average silhouette coefficient 2 cluster is higher, it is concluded that the clustering evaluation of data testing is 6 months (327 transactions from 51 customers) that the most suitable division of the number of clusters is 2.

4. Conclusion

The conclusion that can be obtained from the results of testing on the application of determining the top product and product recommendation are as follows:

1. Applications can display top products and product recommendations for each customer from the application of K-Means according to the specified settings.
2. The results of the silhouette coefficient evaluation of data testing show that the most suitable number of clusters is 2.

Suggestions for those who want to develop applications for determining top products and product recommendations on e-commerce with K-Means include:

1. Applications can be further developed by adding new features such as live chat between customers and operators and payment gateway systems to facilitate payment transactions.
2. Add another attribute for customer grouping.
3. The application of the K-Means method can be developed to create new features such as determining the best customer groups to be given shopping discount promotions.
4. Designing a product recommendation system for customers with other algorithms, such as the Collaborative Filtering algorithm.

5. References

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Year	SJR
2010	0.179
2011	0.230

Citations per document

This indicator counts the number of citations received by documents from a journal and divides them by the total number of documents published in that journal. The chart shows the evolution of the average number of times documents published in a journal in the past two, three and four years have been cited in the current year. The two years line is equivalent to journal impact factor ™ (Thomson Reuters) metric.

Cites per document	Year	Value
Cites / Doc. (4 years)	2009	0.000
Cites / Doc. (4 years)	2010	0.272
Cites / Doc. (4 years)	2011	0.383
Cites / Doc. (4 years)	2012	0.311
Cites / Doc. (4 years)	2013	0.392
Cites / Doc. (4 years)	2014	0.375
Cites / Doc. (4 years)	2015	0.425
Cites / Doc. (4 years)	2016	0.496
Cites / Doc. (4 years)	2017	0.559
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Cites / Doc. (3 years)	2009	0.000
Cites / Doc. (3 years)	2010	0.272
Cites / Doc. (3 years)	2011	0.383
Cites / Doc. (3 years)	2012	0.311

Total Cites Self-Cites

Evolution of the total number of citations and journal's self-citations received by a journal's published documents during the three previous years.
Journal Self-citation is defined as the number of citation from a journal citing article to articles published by the same journal.

Cites	Year	Value
Self Cites	2009	0
Self Cites	2010	0
Self Cites	2011	1
Self Cites	2012	23

External Cites per Doc Cites per Doc

Evolution of the number of total citation per document and external citation per document (i.e. journal self-citations removed) received by a journal's published documents during the three previous years. External citations are calculated by subtracting the number of self-citations from the total number of citations received by the journal's documents.

Cites	Year	Value
External Cites per document	2009	0
External Cites per document	2010	0.272
External Cites per document	2011	0.379

% International Collaboration

International Collaboration accounts for the articles that have been produced by researchers from several countries. The chart shows the ratio of a journal's documents signed by researchers from more than one country; that is including more than one country address.

Year	International Collaboration
2009	21.11
2010	39.24
2011	14.75
2012	25.38
2013	19.79

Citable documents Non-citable documents

Not every article in a journal is considered primary research and therefore "citable", this chart shows the ratio of a journal's articles including substantial research (research articles, conference papers and reviews) in three year windows vs. those documents other than research articles, reviews and conference papers.

Documents	Year	Value
Non-citable documents	2009	0
Non-citable documents	2010	7
Non-citable documents	2011	11
Non-citable documents	2012	51
Non-citable documents	2013	73

Cited documents Uncited documents

Ratio of a journal's items, grouped in three years windows, that have been cited at least once vs. those not cited during the following year.

Documents	Year	Value
Uncited documents	2009	0
Uncited documents	2010	144
Uncited documents	2011	195
Uncited documents	2012	855
Uncited documents	2013	1102
Uncited documents	2014	1552

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reply

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SCImago Team

Dear Rafael,

Thank you for contacting us. Please see comments below.

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Vo Anh Tuan 2 months ago

Dear Melanie , Elena and SCImago team

Can you please let me know Q1/ Q2:/ Q3 or Q4 Classiffication as the journal IOP Conference Series : Materials Science and Engineering , with the Volume published as the link below:

https://iopscience.iop.org/volume/1757-899X/869

Thank you so much for your Promp reply

Warmest regards

VÕ Anh Tuấn

University of Architecture of HO CHI MINH CITY, VIETNAM
Tel: 84908226165
196 Pasteur , District 3, HCMC, Vietnam

reply

SCImago Team

Melanie Ortiz 2 months ago

Dear Vo Anh Tuan,
Thank you for contacting us. We calculate the SJR data for all the publication's types, but the Quartile's data are only calculated for Journals and Book Series.
Best regards, SCImago Team

SCImago Team

P

ptnabeel 3 months ago

I was looking for a template to publish my paper in IOP conference series: Material Science and Engineering.

reply

SCImago Team

Melanie Ortiz 3 months ago

Dear Sir/Madam,

thank you for contacting us.
We suggest you visit the journal's homepage (See submission/author guidelines) or contact the journal's editorial staff , so they could inform you more deeply.
Best Regards, SCImago Team

SCImago Team

H

Haydar Al-Ethari 4 months ago

I hope this message finds you very well
I have two papers published in the IOP Conference Series: Materials Science and Engineering, Volume 881, 3rd International Conference on Sustainable Engineering Techniques (ICSET 2020) 15 April 2020, Baghdad, Iraq, but I did not find them in my id author profile in scopus and could not add them manually. Is there any problem with this publication/conference/journal? (may be out of scopus). The online publication was at 1/7/2020.
Best Regards

reply

S

Saran 3 months ago

Hi.is there any problem in adding to scopus author profile?

Melanie Ortiz 3 months ago

SCImago Team

Dear Saran,
thank you very much for your comment, unfortunately we cannot help you with your request. We suggest you contact Scopus support:
https://service.elsevier.com/app/answers/detail/a_id/14883/kw/scimago/supporthub/scopus/
Best Regards, SCImago Team

SCImago Team

Melanie Ortiz 4 months ago

SCImago Team

Dear Haydar,
thank you very much for your comment, unfortunately we cannot help you with your request. We suggest you contact Scopus support:
https://service.elsevier.com/app/answers/detail/a_id/14883/kw/scimago/supporthub/scopus/
Best Regards, SCImago Team

SCImago Team

A

AL-Kurdhani J. M. H. 5 months ago

Hello
Dear Elena,
I want to know what is the value of impact factor of 2019 for useful all MSC. or/and pH.D. students by publishing in these journals and my students need the Q1 or Q2 in SJR with Scopus Q-ranking to graduation.
Thank you so much.

Best Regards,

reply

Melanie Ortiz 5 months ago

SCImago Team

Dear AL-Kurdhani,

Thank you for contacting us. Could you please tell us which particular journal you are referring to?

Best Regards, SCImago Team

SCImago Team

V

Virat Khanna 5 months ago

Can you please tell, how much time does IOP conference series take to publish the proceeding of the conference after the conference date.

reply

Melanie Ortiz 5 months ago

SCImago Team

Dear Virat,
thank you for contacting us.
Unfortunately, we cannot help you with your request, we suggest you contact the editorial staff , so they could inform you more deeply.
Best Regards, SCImago Team

SCImago Team

S

syafriyudin 6 months ago

is The journal IOP Conference Series: Materials Science and Engineering in the scopus index

reply

Melanie Ortiz 6 months ago

SCImago Team

Dear Syafriyudin,
Thank you very much for your comment.
All the metadata have been provided by Scopus /Elsevier in their last update sent to SCImago, including the Coverage's period data. The SJR for 2019 was updated on June 2020, 11. We suggest you consult the Scopus database directly to see the current index status as SJR is a static image of Scopus, which is changing every day.
Best Regards, SCImago Team

SCImago Team

F

Fouad Fadhil Al-Qaim 6 months ago

Dear Sir/Madam

May I know this Journal whether Q1, Q2,Q3 or Q4? Actually, there is no any quarter reported here.

Thank you

reply

SCImago Team

Melanie Ortiz 6 months ago

Dear Fouad,

Thank you for contacting us. We calculate the SJR data for all the publication's types, but the Quartile's data are only calculated for Journals.

Best regards, SCImago Team

SCImago Team

R

Raj kamal 6 months ago

IOP is whether scopus indexed

reply

SCImago Team

Melanie Ortiz 6 months ago

Dear Raj,

Thank you very much for your comment.

All the metadata have been provided by Scopus /Elsevier in their last update sent to SCImago, including the Coverage's period data. The SJR for 2019 was updated on June 2020, 11. We suggest you consult the Scopus database directly to see the current index status as SJR is a static image of Scopus, which is changing every day.

Best Regards, SCImago Team

SCImago Team

R

ramanathan venkatachalam 6 months ago

What is impact factor of IOP Conf. Series: Materials Science and Engineering

reply

Melanie Ortiz 6 months ago

SCImago Team

Dear Ramanathan, thank you very much for your comment.
SCImago Journal and Country Rank uses Scopus data, our impact indicator is the SJR. Check out our web to localize the journal. We suggest you consult the Journal Citation Report for other indicators (like Impact Factor) with a Web of Science data source. Best Regards, SCImago Team

SCImago Team

A

Abbas Al-Hdabi 9 months ago

Dear Elena
I hope that you are very well and will be safe within Corona virus crises.
Please let me know when you issue the new journal classification i.e. Q1, q2 ... and what is your strategy for your update.
My query is a general one not regarding IOP publications.

Kind regards and stay safe

Abbas

reply

Melanie Ortiz 9 months ago

SCImago Team

Dear Abbas,
Thank you for contacting us. Our data come from Scopus, they annually send us an update of the data. This update is sent to us around April / May every year. Thus, the indicators for 2019 will be available in June 2020. Best Regards, SCImago Team

SCImago Team

B

Boumediene sadoun 9 months ago

Hello
I want to know what is the value of impact factor of 2019.
Also, is the nature of publishing in this journal considered as an article or a processing?
In addition to this, can we take PhDs in this journal?

reply

Melanie Ortiz 9 months ago

SCImago Team

Dear Boumediene, thank you very much for your comment.
SCImago Journal and Country Rank uses Scopus data, our impact indicator is the SJR. Check out our web to localize the journal. We suggest you to consult the Journal Citation Report for other indicators (like Impact Factor) with a Web of Science data source. For further information about this journal, please visit the journal's website. Best Regards, SCImago Team

SCImago Team

P

PARU 11 months ago

IOP CONFERENCE SERIES A BOOK OR JOURNAL.

reply

Melanie Ortiz 11 months ago

SCImago Team

Dear Paru,
Thank you for contacting us.
SJR is a portal with scientometric indicators of journals indexed in Scopus. All the data have been provided By Scopus /Elsevier and SCImago doesn´t have the authority over this data which are property of Scopus/Elsevier. SCImago has a signed agreement that limits our performance to the generation of scientometric indicators derived from the metadata sent in the last update. Apparently, Scopus has categorized this publication in "Conference and Proceedings" section. We suggest you to contact with Scopus support regarding this request: https://service.elsevier.com/app/answers/detail/a_id/14883/kw/scimago/supporthub/scopus/. Best Regards, SCImago Team

SCImago Team

Hebatalrahman Hebatalrahman 11 months ago

please what is value can express impact factor for IOP conference series material science and engineering

reply

Melanie Ortiz 11 months ago

SCImago Team

Dear Hebatalrahman, thank you very much for your comment.
SCImago Journal and Country Rank uses Scopus data, our impact indicator is the SJR. Check out our web to localize the journal. We suggest you to consult the Journal Citation Report for other indicators (like Impact Factor) with a Web of Science data source. Best Regards, SCImago Team

SCImago Team

A

Andrei 11 months ago

No me carga el cuartil, saben porqué se debe eso?

reply

Melanie Ortiz 11 months ago

SCImago Team

Dear Andrei,
Thank you for contacting us. We calculate the SJR data for all the publication types, but the Quartile data are only calculated for Journal type's publications. Best regards, SCImago Team

SCImago Team

K

Kassim 1 year ago

Hello
I want know that is Elsevier a publisher of this journal?

reply

M

MADHU LATA BHARTI 1 year ago

please tell me if this journal is ugc listed, if it is, what is its ugc approval number?

reply

Ondrej 1 year ago

Madhu means if the journal is approved and listed in University Grants Commission of India. It is possible to find it out here (after registration):
https://ugccare.unipune.ac.in/site/website/index.aspx
However, IOP Conference Series: Materials Science and Engineering, is not, in fact, journal, but it collects proceedings from conferences, not journal articles. Still, the good thing is that IOP CS is WOS, Scopus

(SJR) indexed. Generally, IOP publishing house is fair and reilable institution.

Melanie Ortiz 1 year ago

SCImago Team

Dear user, thanks for your participation! Best Regards, SCImago Team

Melanie Ortiz 1 year ago

SCImago Team

Dear Madhu, could you please expand your comment? Best Regards, SCImago Team

O

osamah raad 1 year ago

please how can I know the dates future conferences of IOP? are there any website for that purpose?
Regards

reply

K

Kabiru 1 year ago

Dear Elena,
If IOP is a conference, then papers published in it are Scopus journal articles or just conference papers?
I was told that the papers published in IOP: material science and engineering are Scopus indexed journal papers with Scopus Q-ranking.
We need this for our Ph.D. graduation requirement.

THANK YOU

reply

Elena Corera 1 year ago

SCImago Team

Dear Kabiru, thank you very much for your comment, unfortunately we cannot help you with your request. We suggest you consult the Scopus database directly. Remember that the SJR is a static image of a database (Scopus) which is changing every day. Best regards, SCImago Team

SCImago Team

A

Asha Rajiv 2 years ago

Wanted to know whether the journal is scopus indexed?

reply

Elena Corera 2 years ago

SCImago Team

Dear Asha,

please, check comments below.

Best regards,
SCImago Team

SCImago Team

a ridwan 2 years ago

if this conference and proceeding indexed by scopus how could i find my id author in scopus ?

reply

S

Salam Jabr 2 years ago

https://www.eetc-pec19.org/?
fbclid=IwAR2IOrbhvf6gtCwmddESpBVea7_p9MCW_bw3WUrzzZV1IB5BMgI6d5FA1mA

SCImago Team

Elena Corera 2 years ago

Dear A Ridwan,

thank you very much for your comment, unfortunately we cannot help you with your request. We suggest you contact Scopus
https://service.elsevier.com/app/answers/detail/a_id/14883/kw/scimago/supporthub/scopus/

Best Regards,
SCImago Team

SCImago Team

T

Thanikasalam 2 years ago

Hi, is this Scopus indexed?

reply

SCImago Team

Elena Corera 2 years ago

Dear Thanikasalam,
thank you for your request, all the journals included in SJR are indexed in Scopus. Elsevier / Scopus is our data provider.
Best Regards,
SCImago Team

SCImago

Team

Dr.Ellahi 2 years ago

Dear Mam,
Just i want to ask you it is SCI,SCIE,OR EI or other journal?I know it is conference proceeding journal.
Thanks.

reply

SCImago Team

Elena Corera 2 years ago

Dear Dr Ellahi, SCImago Journal and Country Rank uses Scopus data, our impact indicator is the SJR. Check our page to locate the journal. We suggest you consult the Journal Citation Report for other indicators (like Impact Factor) with a Web of Science data source. Best Regards, SCImago Team

SCImago Team

N

Nikhil jain 2 years ago

Madam icame 2018 conference papers not published yet can you tell me status

reply

SCImago Team

Elena Corera 2 years ago

Dear Nikhil,

articles publicated in 2018 are not over yet (we are in September). 2018 indicators will not be available until June 2019. We can not see what will happen in the future with this journal. SCImago receives the data from Scopus / Elsevier annually and does not have the authority to include, exclude or modify the data provided by Scopus.

Best Regards,
SCImago Team

SCImago Team

M

Moisés Toapanta 2 years ago

The IOP Conference is considered a research journal or only remains in conference proceedings. What is the difference of the SJR impact between a conference journal and a scientific journal

reply

SCImago Team

Elena Corera 2 years ago

Dear Moisés,
thank you very much for your comment. This journal is a conference proceedings. We only do an SJR calculation, it is the same for any type of publication
Best Regards,
SCImago Team

SCImago Team

V

Vadym 2 years ago

Dears, colleagues!

The journal IOP Conference Series: Materials Science and Engineering is it Q3 or Q4?

Best Regards

reply

ahmad fauzi 7 months ago

why journal of physics (IOP conferences has Q3? but the journal don't have. Both of them are conferences

Elena Corera 2 years ago

SCImago Team

Dear friend,

It's a conference, it does not have a quartile.

https://www.scimagojr.com/journalsearch.php?q=19700200831&tip=sid&clean=0

Best Regards, SRG

SCImago Team

Leave a comment

Name

Email
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The users of Scimago Journal & Country Rank have the possibility to dialogue through comments linked to a specific journal. The purpose is to have a forum in which general doubts about the processes of publication in the journal, experiences and other issues derived from the publication of papers are resolved. For topics on particular articles, maintain the dialogue through the usual channels with your editor.

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IOPscience

IOP Conference Series: Materials Science and Engineering

PAPER • **OPEN ACCESS**

Recommendation Product Based on Customer Categorization with K-Means Clustering Method

Bagus Mulyawan[1], M. Viny Christanti[1] and Riyan Wenas[1]

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Citation Bagus Mulyawan *et al* 2019 *IOP Conf. Ser.: Mater. Sci. Eng.* **508** 012123

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Abstract

Nowadays, web shopping is more than selling product. Many web shopping have basic analytics system to analyze customer data, transaction data including demographics, age and gender. They add many features in web shopping to maintain customer loyalty. In this research, we made a web shopping that can analyze customer shopping behavior. We used FM (Frequency and monetary) analysis based on a "transaction" data set. We categorize the customer based on how often they buy, how much they buy and how much the value of purchased item. We use K-Means algorithm to cluster the customer based on their transaction. Analyzing and understanding customers' buying behavior can help the store to know what they are looking for. Therefore, at every customer web page that is in the same cluster will appear recommended products accordance with the transaction that has been done. Recommendation Products are presented is the prediction of the type of goods that may be chosen by the customer. So that the recommendation products that appear on web pages between customers will be different. The data used for this test is "Istana Accessories" store data from January to June 2014. The results show that recommendation product from K-Means algorithm successfully obtained and displayed on the customer page.

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TICATE 2020

3rd Tarumanagara International Conference on the Applications of Technology and Engineering

TICATE 2020

TICATE 2020 has attracted many academicians, scientists, engineers, postgraduates and other professionals from many countries. The aim of the conference is to promote exchange of ideas among engineers, researchers, and scientists active in the related areas of TICATE. It presents a high-level international forum to introduce, to exchange and to discuss recent advances, new techniques and applications in the field of Technology and Engineering and their related applications in industries and humanities.

All papers accepted by The TICATE 2020 will be proposed for publication in a reputable publisher and will be submitted for further indexing to Scopus.

Currently the entire world struggling the Pandemic Covid-19, we have the plan that the presentation method from the oral presentation to the virtual presentation / video meetings.

IMPORTANT DATES

Submission Deadline

~~April 30, 2020~~

May 31, 2020

June 30, 2020

Paper Acceptance Notification

May 14
~~June 14~~
July 14, 2020

Camera Ready & Registration Deadline
~~May 30~~
~~June 21~~
July 31, 2020

Conference Date:
August 3-4, 2020

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