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Introducing Semarak Ilmu Publishing In Fluid Research: Bibliometric Analysis

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ABSTRACT

This research aims to introduce Semarak Ilmu Publishing in the field of fluid research through bibliometric analysis. This analysis evaluates publications, research trends, and major contributions in the fluid-related scientific literature. Data was collected from the Scopus database and analyzed using a bibliometric tool called VOSviewer. The research results show a significant increase in the number of publications, especially in 2023-2024. Apart from that, there is visible collaboration between authors from different affiliations and countries. This collaboration had an impact on increasing the number of citations. These findings also highlight the strategic position of Semarak Ilmu Publishing in facilitating the dissemination of knowledge and innovation in the field of fluid research.

Keywords:

semarak ilmu publishing; bibliometric;
fluid research; fluid

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1. Introduction

Fluid research plays an important role in a variety of scientific disciplines, including engineering, physics, and the environment. Fluids are highly flexible and dynamic media, which can be found in almost every aspect of life and modern technology. Fluids are substances that can flow and adapt to the shape of the container they are in or substances that will deform continuously as long as they are influenced by a shear stress. When in equilibrium, the fluid cannot withstand shear forces. The fluid used as a force transmitter has high pressure, ranging from 50 to 70 degrees Celsius. The basic principle of hydraulics is that if a liquid is subjected to pressure, the pressure will propagate in all directions without increasing or decreasing in strength (Archimedes' Law). One example of the application of fluids is in the flow of water in house piping where water flows with sufficient pressure to supply water to various parts of the house. Several studies regarding fluids are available (see Table 1). Additionally, a deep understanding of fluid behavior is essential in designing and optimizing systems such as pipelines, turbines, chemical reactors, and cooling systems. In an environmental

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context, fluid research is also crucial in the study of groundwater, atmospheric, and oceanic flows, all of which have significant impacts on climate change and global ecosystems.

Table 1

Previous studies regarding fluid research

No.	Title	Ref.
1	Deburring method of aluminum mould produced by milling process for microfluidic device fabrication.	[1]
2	Analysis of bed temperature on circulated fluidized bed boiler using simple multivariable regression	[2]
3	Improving understanding performance of students with hearing impairments on static fluid density through experimental demonstrations	[3]
4	Correlation Between Computational Fluid Dynamics (CFD) and Nanotechnology	[4]
5	Progress in the Developments of Heat Transfer, Nanoparticles in Fluid, and Automotive Radiators: Review and Computational Bibliometric Analysis	[5]
6	Involving Particle Technology in Computational Fluid Dynamics Research: A Bibliometric Analysis	[6]
7	ZnO NRs/rGO Photocatalyst in a Polymer-Based Microfluidic Platform	[7]
8	Magnetic Polymer Based Micropumps for Microfluidic Sample Delivery System	[8]
9	Examining understanding performance of fluid flow and viscosity through experimental demonstration for student with special needs	[9]
10	Analysis of fluid permeation through a particle-packed layer using an electric resistance network as an analogy	[10]

In recent years (2009-2024), Semarak Ilmu Publishing has emerged as one of the main publishers supporting the dissemination of knowledge in the field of fluid research. The role of scientific publishing is not only limited to disseminating research results but also facilitating collaboration between researchers and encouraging innovation. Publishers such as Semarak Ilmu Publishing contribute to providing a platform that allows researchers to publish their work, interact with the global scientific community, and increase the visibility of their research.

Bibliometric analysis is an effective tool for identifying research trends, collaboration between researchers, and the impact of scientific publications. Through bibliometric analysis, we can evaluate how research in a particular field develops over time, identify topics that are currently popular, and understand collaboration patterns between researchers and institutions. Additionally, bibliometric analysis can provide valuable insights into the dynamics of scientific communities and assist in strategic decision making [11].

Previous research shows that bibliometric analysis has been widely used in various fields of science to measure scientific productivity and research impact. Several researchers who have conducted research using bibliometric analysis are shown in Table 2.

Table 2

Previous research

No.	Title	Ref.
1.	Introducing Semarak Ilmu Publishing in Publishing Science and Engineering: Bibliometric Analysis.	[12]
2.	Publication of Scholar in Universitas Pendidikan Indonesia: Bibliometric Analysis using Scopus Database.	[13]
3.	Bibliometric Studies: Digital Learning and Teacher Teaching Quality.	[14]
4.	Virtual Laboratory and Artificial Intelligence in Science Education: Bibliometric Analysis Based on Scopus Source.	[15]
5.	Publications on Online Learning Technology for Mathematics and Science: Bibliometric Computational Mapping Analysis using VOSviewer.	[16]
6.	Concept of Computational Fluid Dynamics and Its Application in Sport Science: Bibliometric Analysis of Modelling Thermal Comfort in Sport Hall.	[17]
7.	Concept of computational fluid dynamics design and analysis tool for food industry: A bibliometric.	[18]

No.	Title	Ref.
8.	Research trends from the scopus database using keyword water hyacinth and ecosystem: A bibliometric literature review.	[19]
9.	Is Universitas Pendidikan Indonesia ready for internationalization? A bibliometric analysis in the science and technology-related publications.	[20]
10.	Bibliometric analysis of briquette research trends during the covid-19 pandemic.	[21]
11.	How to calculate bibliometric using vosviewer with publish or perish (using scopus data): Science education keywords.	[22]
12.	Social impact and internationalization of "Indonesian journal of science and technology" the best journal in Indonesia: A bibliometric analysis.	[23]
13.	Bibliometric using Vosviewer with Publish or Perish (using google scholar data): From step-by-step processing for users to the practical examples in the analysis of digital learning articles in pre and post Covid-19 pandemic.	[11]
14.	Publication of Scholar in Universitas Pendidikan Indonesia: Bibliometric Analysis using Scopus Database.	[24]
15.	Resin matrix composition on the performance of brake pads made from durian seeds: From computational bibliometric literature analysis to experiment.	[25]

Based on the above-explained several previous studies mentioned in Table 1, none has discussed the development of publications on fluid research, especially in the field of publishing science. Therefore, this research was carried out to introduce Semarak Ilmu Publishing in the field of fluid research as additional information relating to our previous studies in explaining Semarak Ilmu Publishing [12]. The novelty of this research lies in its special focus on the contribution of one publisher, namely Semarak Ilmu Publishing, in the context of fluid research. Although much research has been conducted to evaluate general trends in the fluid field, few have specifically evaluated the role of individual publishers in supporting and promoting this research. Thus, this study will not only provide insight into the strategic position of Semarak Ilmu Publishing in the scientific community but can also help publishers and researchers for identifying potential areas for collaboration and further development.

2. Methodology

This research uses bibliometric analysis methods with data obtained from the Scopus database. Research steps include: first, data collection. Data collection was carried out by collecting articles published by Semarak Ilmu Publishing in the field of fluid research. In this process, the keywords "vibrant publishing science" AND "fluid" are used. Second, data processing. Data processing was carried out using the VOSviewer application to map data and analysis results from the Scopus database to analyze publication data, collaborations and research trends. Apart from that, Excel is used to process and analyze data in more depth. Third, data analysis. Data analysis was carried out to compile a bibliometric map to identify dominant research topics. Data collection was carried out on December 7 2025.

3. Results

This research evaluates the contribution of Semarak Ilmu Publishing in the field of fluid research through bibliometric analysis. Based on data from Scopus, the number of publications related to fluid research published by Semarak Ilmu Publishing in the 2009-2025 period reached 475 articles published in several journals such as the Journal of Advanced Research in Fluid Mechanics and Thermal Sciences, CFD Letters, Journal of Advanced Research in Applied Mechanics, and Journal of

Advanced Research in Applied Sciences and Engineering Technology. Several papers published in these journals are explained in Tables 3-8.

Table 3

Example articles published in Journal of Advanced Research in Fluid Mechanics and Thermal Sciences

No	Title	Ref
1.	Investigation of the Effectiveness of Small Scale Solar Updraft Tower using Solar Simulator	[26]
2.	Sustainable Biochar Carbon Microparticles Based on Mangosteen Peel as Biosorbent for Dye Removal: Theoretical Review, Modelling, and Adsorption Isotherm Characteristics	[27]
3.	Chemical Surface Modification of Cornstarch Microparticles by Acetic Acid for Curcumin Carrier	[28]
4.	Magnetic Polymer Based Micropumps for Microfluidic Sample Delivery System	[29]
5.	Investigation of The Effect Biodiesel-Butanol-Water Fuel Blend Pressure on A Single-Cylinder Diesel Engine	[30]
6.	The effects of using diesel-citronella fuel blend on the emission and fuel consumption for single-cylinder diesel engine	[31]

Table 4

Examples articles published in CFD letters

No	Title	Ref
1.	Involving Particle Technology in Computational Fluid Dynamics Research: A Bibliometric Analysis	[32]
2.	Concept of Computational Fluid Dynamics and Its Application in Sport Science: Bibliometric Analysis of Modelling Thermal Comfort in Sport Hall	[33]
3.	Concept of Computational Fluid Dynamics Design and Analysis Tool for Food Industry: A Bibliometric	[34]
4.	Investigation of the effect of flow rate on fluid heat transfer in counter-flow helical heat exchanger using CFD method	[35]
5.	Influence of Both Ohmic Dissipation and Activation Energy on Peristaltic Transport of Jeffery Nanofluid through a Porous Media	[36]
6.	Simulate the Rheological Behaviour of the Solar Collector by Using Computational Fluid Dynamic Approach	[37]
7.	Radiative Heat Source Fluid Flow of MHD Casson Nanofluid over A Non-Linear Inclined Surface with Soret and Dufour Effects	[38]
8.	MHD Slip Flow of Upper-Convected Casson and Maxwell Nanofluid over a Porous Stretched Sheet: Impacts of Heat and Mass Transfer	[39]
9.	Magnetohydrodynamic Effect in Mixed Convection Casson Hybrid Nanofluids Flow and Heat Transfer over a Moving Vertical Plate	[40]
10.	Water transport properties of bio-nanocomposites reinforced by sugar palm (arenga pinnata) nanofibrillated cellulose	[41]
11.	Slip effects on peristaltic transport of Casson fluid in an inclined elastic tube with porous walls	[42]
12.	Analysis of MHD Jeffery Hamel flow with suction/injection by homotopy analysis method	[43]
13.	Review on preparation techniques, properties and performance of hybrid nanofluid in recent engineering applications	[44]

Table 5

Examples articles published in Journal of Advanced Research in Applied Sciences and Engineering Technology

No	Title	Ref
1.	Is Universitas Pendidikan Indonesia ready for internationalization? A bibliometric analysis in the science and technology-related publications	[20]
2.	Introducing ASEAN Journal of Science and Engineering: A Bibliometric Analysis Study	[45]
3.	Bibliometric Computational Mapping Analysis of Trend Metaverse in Education using VOSviewer	[46]
4.	Social Impact and Internationalization of "Indonesian Journal of Science and Technology" the Best Journal in Indonesia: A Bibliometric Analysis	[47]
5.	The Use of Information Technology and Lifestyle: An Evaluation of Digital Technology Intervention for Improving Physical Activity and Eating Behavior	[48]
6.	Calcium Oxide Nanoparticle Production and its Application as Photocatalyst	[49]

No	Title	Ref
7.	Sustainable Biochar Carbon Biosorbent Based on Tamarind (<i>Tamarindusindica</i> L) Seed: Literature Review, Preparation, and Adsorption Isotherm	[50]
8.	Design, Development, and Evaluation of a Mobile Learning Application for Geography Education	[51]
9.	A Bibliometric Mapping Analysis of Publications on The Utilization of Artificial Intelligence Technology in Language Learning	[52]
10.	A Cluster-Based Bibliometric Analysis of the Emerging Technological Landscape in Logistics using Vosviewer	[53]
11.	The Use of Technology and Media in Japanese Language Learning: A Bibliometric Analysis	[54]
12.	Aspect-Based Classification and Visualization of Twitter Sentiment Analysis Towards Online Food Delivery Services in Malaysia	[55]
13.	Autoregressive Integrated Moving Average (ARIMA) Algorithm Adaptation for Business Financial Forecasting	[56]
14.	Intelligence Shopee Product Comparison (i-SPC) and Visualization of Product Information via Naïve Bayes Adaptation	[57]
15.	Animation Videos Promote Health Education for Children and Adolescents	[58]
16.	Technology-Based Intervention for Building Healthy Campus: Health Promoting Lifestyle in the Universities	[59]

Table 6

Examples of articles published in the Journal of Advanced Research in Micro and Nano Engineering

No	Title	Ref
1.	Correlation Between Computational Fluid Dynamics (CFD) and Nanotechnology	[4]
2.	Effects of Solar Radiation and Viscous Dissipation on Mixed Convective Non-Isothermal Hybrid Nanofluid over Moving Thin Needle	[60]
3.	Preparation of Zinc Oxide Nanoparticles and its Cancer Treatment Effects: A Review Paper	[61]
4.	Stability Analysis on Mixed Convection Nanofluid Flow in a Permeable Porous Medium with Radiation and Internal Heat Generation	[62]
5.	Performance of Solar Thermal Collector Using Multi-Walled Carbon Nanotubes: Simulation Study	[63]
6.	Effects of The Optimal Imposition of Viscous and Thermal Forces on Spectral Dynamical Features of Swimming of a Microorganism in Nanofluids	[64]
7.	Free Convection Boundary Layer Flow of Jeffrey Nanofluid on a Horizontal Circular Cylinder with Viscous Dissipation Effect	[65]
8.	Heat and Flow Profile of Nanofluid Flow Inside Multilayer Microchannel Heat Sink	[66]
9.	Metal Oxide and Ethylene Glycol Based Well Stable Nanofluids for Mass Flow in Closed Conduit	[67]
10.	Simulation Study on the Heat Performance of Different Nanofluids for Rotating Detonation Engine Cooling	[68]

Table 7

Examples of articles published in the Journal of Advanced Research in Applied Mechanics

No	Title	Ref
1.	Experimental Study of the Effect of Roller Shape Variations on the CVT System using Petrol-Pyrolytic Fuels toward the Power Characteristics of Automatic Motorcycles	[69]
2.	Eigenfrequency Analysis of Railway Vehicle Leafsprings Suspension: A Finite Element Analysis	[70]
3.	Exploring the Effects of E-Multimedia Animation (E-MMA) on Materials Microstructural of Atomic Slip Plane on Materials Mechanical Properties: Conceptual Mastery and Problem-Solving Skills	[71]
4.	Introducing ASEAN Journal for Science and Engineering in Materials: Bibliometric Analysis	[72]
5.	Rice Husk for Adsorbing Dyes in Wastewater: Literature Review of Agricultural Waste Adsorbent, Preparation of Rice Husk Particles, Particle Size on Adsorption Characteristics with Mechanism and Adsorption Isotherm	[73]
6.	Sound Classification for Non-Destructive Diagnosis of Basal Stem Rot Disease based on Stem Density in Oil Palm Trunks	[74]
7.	Advancing Rehabilitation Accuracy: A Robotic-Human-Like Controller for Continuous Passive Motion with Natural Behavioural Responses	[75]
8.	Moisture Sensitivity Performance of Hot Mix Asphalt Mixture Incorporating Fly Ash Geopolymer (FAG) Asphalt Binder	[76]

No	Title	Ref
9.	Orientation of Linear Liquid Alkane on Solid Surface of Face Centered Cubic Lattice of (100), (110) and (111)	[77]
10.	Identification of Power Quality Disturbances in Electrical Distribution System using Fast Fourier Transforms and Super Learner Ensembles	[78]

Table 8

Examples of articles published in the Journal of Advanced Research Design

No	Title	Ref
1.	A CFD Simulation Study on Pressure Drop and Velocity across Single Flow Microchannel Heat Sink	[79]
2.	Computational Fluid Dynamic Simulations of Wind-Induced Ventilation in Idealized Step-Up Street Canyons	[80]
3.	Investigation of the Fluid Motion with Various Clearances in Biodiesel Reactor by Using CFD	[81]
4.	Notable Behaviours of Liquid Draining in a Tank with a Bluff-Body as an Air-Core Suppression Mechanism	[82]
5.	A GUI for Computing Hybrid Nanofluid Boundary Layer Flow using bvp4c Solver in MATLAB: Educational Purposes for University Students	[83]
6.	Prevalence of Treatment Adherence among Attendance at Hemodialysis in Makkah	[84]
7.	Computational Investigation of Heat Transfer of Nanofluids in Domestic Water Heat Exchanger	[85]
8.	Experimental Study of Loop Heat Pipe Performance with Nanofluids	[86]
9.	Numerical Analysis of Heat Transfer in Microchannel Heat Transfer in Microchannel Heat Sink using Flow Disruption	[87]

Based on Figure 1, the number of publications regarding fluids published by Semarak Ilmu Publishing shows a significant increase, especially in the 2022-2024 period, reaching 204 publications in 2023. This increase is quite striking, considering that during the previous period (2009-2021), the number of publications never exceeded 5, except in 2012 and 2023, where 11 and 13 documents were recorded respectively. This sharp increase indicates that scientific publishing in the field of fluids is now increasingly active and receiving greater attention from the global scientific community. With this development, Semarak Ilmu Publishing offers more opportunities for researchers in the field of fluids to publish their research results, as well as expand their scientific impact at the international level.

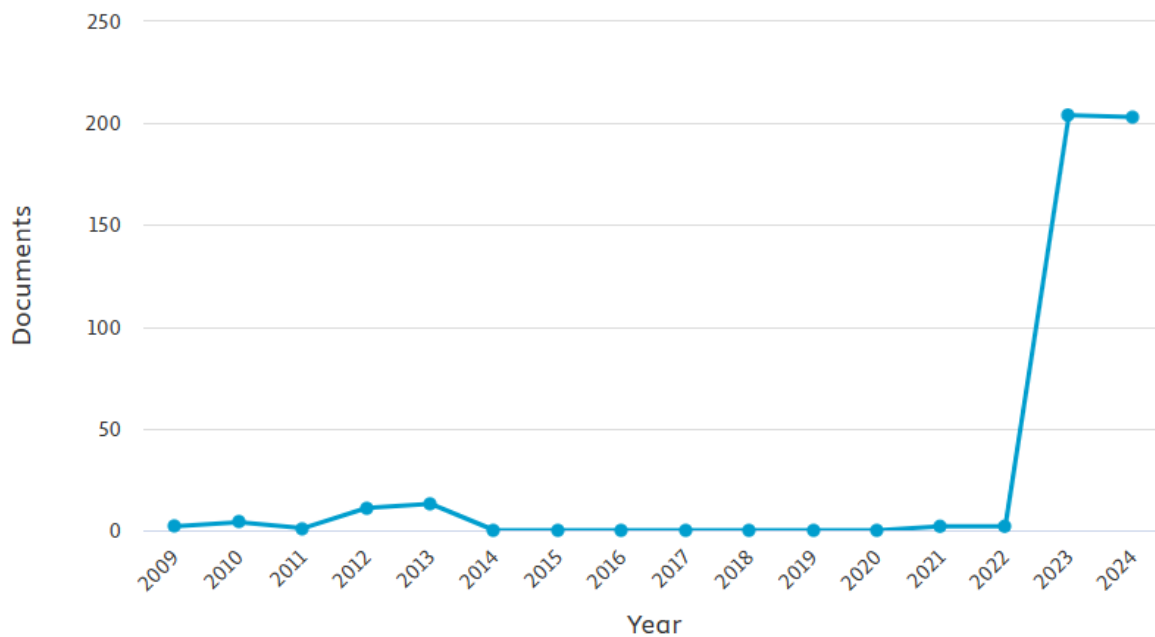


Fig. 1. Development of publications on fluid research in the Semarak Ilmu Publishing for the 2009-2024 period

Apart from that, through this research, several documents with the highest number of citations were identified as shown in Table 2. One of the articles most cited by other researchers was the article entitled "Involving Particle Technology in Computational Fluid Dynamics Research: A Bibliometric Analysis", published in 2023. This article was written by researchers from Indonesia and Japan. Highly cited articles usually discuss innovative topics and have a significant impact on the development of fluid research. Based on the data shown in Table 8, collaboration between authors from various countries contributed greatly to the high number of citations for this article. This opinion is in line with the results of research conducted by Bormann et al. (2014), who stated that publications involving collaboration between authors, especially from various institutions or countries, tend to be cited more frequently by other researchers.

Table 8
 Ten articles with the most citation

No.	Title	Year of Publication	Citations
1.	Involving Particle Technology in Computational Fluid Dynamics Research: A Bibliometric Analysis	2023	37
2.	Scalar tuning of a fluid solver using a compact scheme for a supercomputer with a distributed memory architecture	2013	36
3.	Effect of swirl in a constant speed DI diesel engine using computational fluid dynamics	2012	25
4.	Effects of Hall Current, Activation Energy and Diffusion Thermo of MHD Darcy-Forchheimer Casson Nanofluid Flow in the Presence of Brownian Motion and Thermophoresis	2023	24
5.	Influence of Both Ohmic Dissipation and Activation Energy on Peristaltic Transport of Jeffery Nanofluid through a Porous Media	2023	22
6.	Aerodynamic drag reduction for ground vehicles using lateral guide vanes	2012	22
7.	Simulate the Rheological Behaviour of the Solar Collector by Using Computational Fluid Dynamic Approach	2023	14
8.	Numerical Study of Shell and Tube Heat Exchanger Performance Enhancement Using Nanofluids and Baffling Technique	2021	13
9.	Radiative Heat Source Fluid Flow of MHD Casson Nanofluid over A Non-Linear Inclined Surface with Soret and Dufour Effects	2023	12
10.	MHD Slip Flow of Upper-Convected Casson and Maxwell Nanofluid over a Porous Stretched Sheet: Impacts of Heat and Mass Transfer	2024	11

Several authors are recorded as consistently publishing research in the field of fluids, especially through Semarak Ilmu Publishing. From a total of 160 researchers detected, we selected 10 researchers with the highest number of publications shown in Figure 2. The ten researchers are Kasim with 14 documents, Waini with 12 documents, Ilias with 10 documents, Shafie with 9 documents, Arifin with 8 documents, Khan with 8 documents, Zainal with 8 documents, Khashi'ie with 7 documents, Gudekote with 6 documents, and Ishak with 6 documents.

The significant increase in the number of publications from these researchers reflects their continuous contribution to expanding knowledge in the field of fluids. Their consistency in publishing scientific articles shows their high dedication to research and the importance of the topics they raise in the scientific community. The active involvement of these authors also contributes to the development and dissemination of knowledge in the growing field of fluids.

From the analysis of the author's country of origin, it can be seen that several countries have made significant contributions to fluid research. Countries such as Malaysia, India, Indonesia, Iraq, and Egypt occupy the top positions in the number of publications and international collaborations. These contributions from various countries demonstrate that fluid research is a highly global and collaborative field, with researchers from different parts of the world working together to advance knowledge in this field. For greater clarity, we have selected the top 10 countries that have contributed a lot to research in the field of fluids. The ten countries are shown in Figure 3. Based on Figure 3, the following results were obtained: (i) Malaysia during the 2009-2024 period contributed 164 documents; (ii) India during the 2009-2024 period contributed 127 documents; (iii) Indonesia during the 2009-2024 period contributed 82 documents; (iv) Iraq during the 2009-2024 period contributed 33 documents; (v) Egypt during the 2009-2024 period contributed 15 documents; (vi) Algeria during the 2009-2024 period contributed 11 documents; (vii) Nigeria during the 2009-2024 period contributed 11 documents; (viii) Saudi Arabian during the 2009-2024 period contributed 9 documents; (ix) Japan during the 2009-2024 period contributed 8 documents; and (x) Romania during the 2009-2024 period contributed 8 documents.

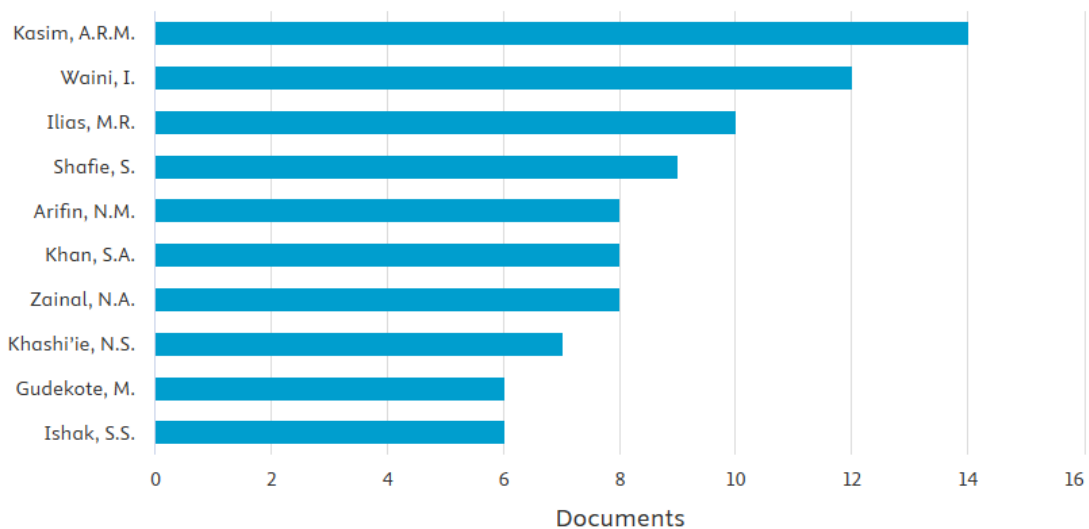


Fig. 2. Ten authors with the most articles

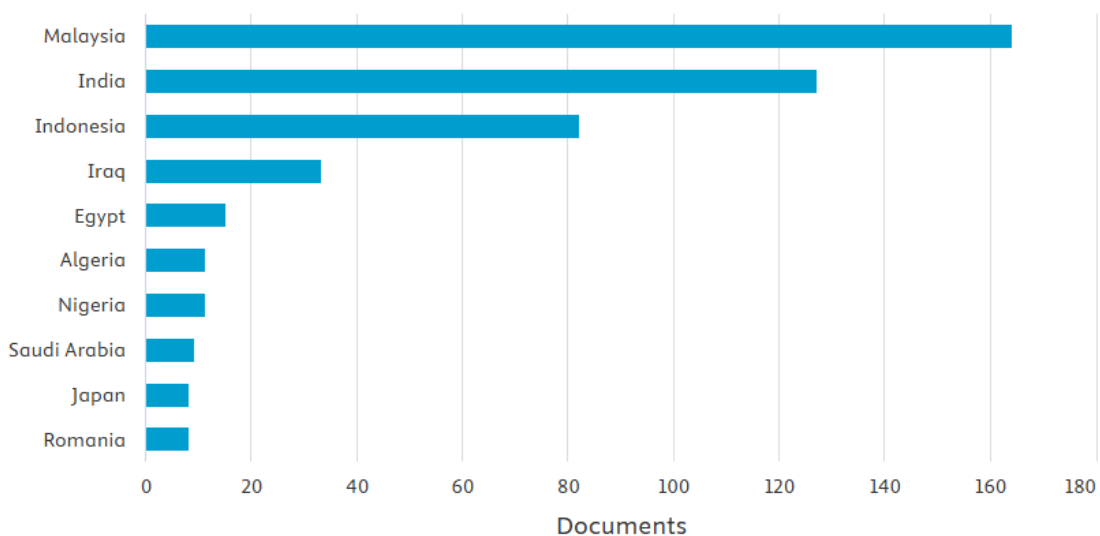


Fig. 3. Ten countries with the most articles

From the research results, it was found that the type of document most frequently published by Semarak Ilmu Publishing in the field of fluids was scientific articles, which reached 99.1% of the total 475 documents. The remaining 0.9% was divided into two types of documents, namely 0.7% in the form of Letters and 0.2% in the form of Reviews (see Figure 4). Documents in the form of scientific articles are generally published in scientific journals indexed by Scopus, under the auspices of Semarak Ilmu Publishing. These articles have an important role in disseminating knowledge and the latest research results. The diversity of topics discussed in these articles and their high quality demonstrate Semarak Ilmu Publishing's commitment to supporting innovative and broad-impact research in the field of fluids. This diversity also illustrates that publishing scientific articles is the main way to share knowledge and advance research development in the scientific community.

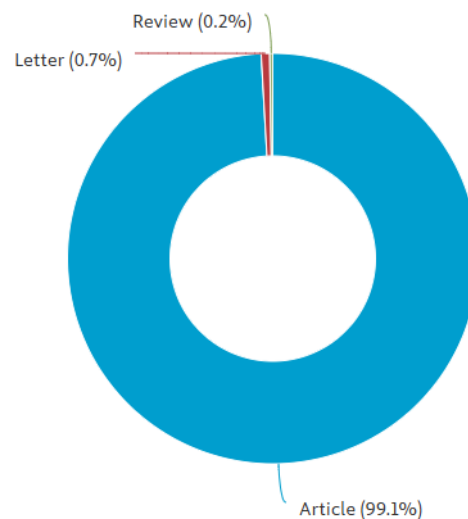


Fig. 4. Document of type

Using the VOSviewer tool, bibliometric analysis produces network visualizations showing collaboration patterns among authors, institutions, and countries. This visualization shows the existence of a broad and structured collaboration network, with several main nodes that function as collaboration centers. This network map helps identify relationships between various actors in fluids research and shows how these collaborations contribute to the increasing number of publications and citations.

Figure 5 shows one type of visualization produced by VOSviewer, namely network visualization. Through network visualization, we can see trends in research topics related to fluids as well as groupings of items that are frequently or not frequently used. Based on Figure 5, a total of 262 items were identified in research in the fluid field. These items are grouped into three clusters which are differentiated by color: red for Cluster 1, green for Cluster 2, and blue for Cluster 3. One of the items that is widely used in fluid research is study, which has a total link strength of 6578 and is connected to 261 other items. This shows that study is one of the main topics in fluid research and is very closely related to other topics identified in this analysis.

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