

**LEMBAR  
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW  
KARYA ILMIAH : PROSIDING**

Judul Jurnal Ilmiah (Prosiding) : Information System Prediction With Weighted Moving Average (WMA) Method And Optimization Distribution Using Vehicles Routing Problem (VRP) Model for Batik Product

Nama/ Jumlah Penulis : Tri Agustina Nugrahani, **Kusworo Adi**, dan Jatmiko Endro Suseno/ 3 orang

Status Pengusul : Penulis ke- 2

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- a. Nama Prosiding : E3S Web of Conferences
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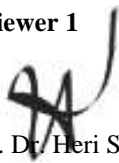
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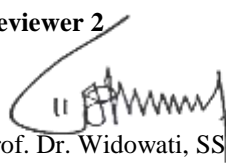
Semarang, 4 Mei 2020

**Reviewer 1**



Prof. Dr. Heri Sutanto, SSi, MSi  
NIP. 197502151998021001  
Unit Kerja : Departemen Fisika - FSM UNDIP

**Reviewer 2**



Prof. Dr. Widowati, SSi, MSi  
NIP. 196902141994032002  
Unit Kerja : Departemen Matematika - FSM UNDIP

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d. Kelengkapan unsur dan kualitas terbitan /prosiding (30%)	9,00		8,80
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Data penelitian yang diperoleh sudah memadai. Hasil penelitian sudah sesuai dengan metodologi riset yang dilakukan. Artikel disusun berdasarkan total 12 referensi dan 2 referensi tidak mutakhir.

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Secara umum kelengkapan unsur artikel lengkap. Kualitas penerbit bagus. Prosiding telah terindeks Scopus dengan SJR (2018) 0.17.

Semarang, 4 Mei 2020

Reviewer 1

Prof. Dr. Heri Sutanto, SSi, MSi

NIP. 197502151998021001

Unit Kerja : Departemen Fisika - FSM UNDIP

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Kategori Publikasi Prosiding :  Prosiding forum Ilmiah Internasional  
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Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Prosiding		Nilai Akhir Yang Diperoleh
	Internasional <input checked="" type="checkbox"/>	Nasional <input type="checkbox"/>	
e. Kelengkapan unsur isi prosiding (10%)	3,00		2,70
f. Ruang lingkup dan kedalaman pembahasan (30%)	9,00		8,40
g. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	9,00		8,70
h. Kelengkapan unsur dan kualitas terbitan /prosiding (30%)	9,00		8,50
<b>Total = (100%)</b>	<b>30,00</b>		<b>28,30</b>
<b>Nilai Pengusul =</b>			

**Catatan Penilaian artikel oleh Reviewer :**

**1. Kesesuaian dan kelengkapan unsur isi jurnal:**

Kelengkapan isi jurnal baik yang meliputi Introduction, Theory, Method, Results and Discussion, Conclusion, dan References. Materi artikel sesuai dengan bidang ilmu pengusul.

**2. Ruang lingkup dan kedalaman pembahasan:**

Ruang lingkup bahasan dari artikel ini adalah bidang fisika, khususnya tentang sistem pendukung keputusan atau AI. Pembahasan tentang sistem informasi yg dapat digunakan untuk memprediksi dengan menggunakan metode rata-rata terboboti, dan distribusi optimasi menggunakan model vehicle routing problem yang diaplikasikan untuk produk batik.Studi kasus di UD. Batik Rolla Jember. Kedalaman pembahasan pada artikel ini cukup baik.

**3. Kecukupan dan kemutakhiran data/informasi dan metodologi :**

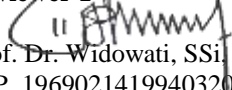
Kemutakhiran informasi baik. Sumber ide penulis untuk artikel ini ada 12 referensi, terdapat 1 referensi yang kadaluwarsa (lebih dari 10 tahun terakhir). Data yg digunakan adalah data sales dari bulan Januari s.d. Juli 2016. Metode penelitian diuraikan dengan cukup baik.

**4. Kelengkapan unsur dan kualitas terbitan:**

Artikel diterbitkan di E3S Web of Conferences yang termasuk Prosiding internasional, ISSN: 2267-1242, terindeks di Scopus, SJR: 0.17 (2018). Hasil Turnitin SIMILARITY INDEX 5 %. Kualitas terbitan cukup baik.

Semarang, 11 April 2020

Reviewer 1



Prof. Dr. Widowati, SSi, MSi

NIP. 196902141994032002

Unit Kerja : Departemen Matematika - FSM UNDIP



# 3<sup>rd</sup> INTERNATIONAL CONFERENCE ON ENERGY, ENVIRONMENT AND INFORMATION SYSTEM 2018 (ICENIS 2018)

Tuesday - Wednesday, August 14<sup>th</sup> - 15<sup>th</sup>, 2018

Theme:  
 "Strengthening Planning and Implementation on Energy, Environmental and Information System Toward Low Carbon Society"

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Prof. Dr. Takayuki Shimaoka  
Kyushu University, Japan



Prof. Dr. Nasrudin  
University of Malaya, Malaysia



Prof. Ho Ching Siong  
Universiti Teknologi Malaysia, Malaysia



Dr. Junichi Fujino  
IGES - Japan



Dr. Kanawut Inkaew  
Rajamangala University of Technology Phra Nakhon, Thailand



Dr.-Ing. Sudarno  
School of Postgraduate Studies Diponegoro University, Indonesia

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After Successful in the previous event with 200 selected paper, we invite for 3<sup>rd</sup> ICENIS 2018 on August 14<sup>th</sup> - 15<sup>th</sup>, 2018 at Santika Premier Hotel Semarang, with the theme "Strengthening Planning and Implementation on Energy, Environmental and Information System Toward Low Carbon Society"

### Topics of Conference

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  - Environmental Technology
  - Environmental Health and Toxicology
  - Environmental Epidemiology
  - Pollution Control
  - Waste Management
  - Green Infrastructure and Resilience
- Information System
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  - Supply Chain Information Systems
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- Societal Change, Culture and Low Carbon Development
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# Preface

This is the proceeding of the 3<sup>rd</sup> International Conference on Energy, Environmental and Information System (**ICENIS**) 2018. The theme of ICENIS 2018 is “Strengthening Planning and Implementation Energy, Environment, and Information System Toward Low Carbon Society. ICENIS 2018 discussing the sustainability of the natural system, i.e energy management and policy, energy conservation, environmental education and planning, environmental conservation, environmental technology, environmental health, pollution control, waste management, green infrastructure and resilience, system information of supply chain and decision support system. Moreover the ICENIS 2018 introducing discussion of social aspect in low carbon society such as economic perspective, government, public policy and international relation, formal informal worker, gender, media and culture development

ICENIS 2018 organized by school of Postgraduate Studies, Diponegoro University has been conducted 14-15<sup>th</sup> august 2018. The conference has successfully performing forum to transferring and discussing research result among the researcher, students, government, private sector or industries. More than 390 participants and presenters from several countries such as Indonesia, Malaysia, Germany, Sudan, Australia, Japan, Libya have attended the conference to share their significant contribution in research related to energy, environment and information system. This proceeding contains 334 selected paper from the conference.

We would like to express our gratitude to all authors and members of scientific committee, reviewers and also organizing committee for their contribution to the success of the conference.

Guest Editors

Prof. Hadiyanto

Dr. Eng. Maryono

Dr. Budi Warsito



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Title, date and place of the conference

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**The 3<sup>rd</sup> International Conference on Energy, Environmental  
and Information System (ICENIS 2018)  
14-15 August, 2018  
Semarang, Indonesia**

Proceedings editor(s):

Prof. Dr. Hadiyanto, MSc

Dr. Eng. Maryono, MT

Dr. Budi Warsito Msi

Date and editor's signature: **November 14, 2018**

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# Author details

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## Adi, K.

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<http://orcid.org/0000-0002-7702-6554>

Affiliation(s): ⓘ

Universitas Diponegoro, Semarang, Indonesia [View more](#) ▾

Other name formats:

- Adi, K.
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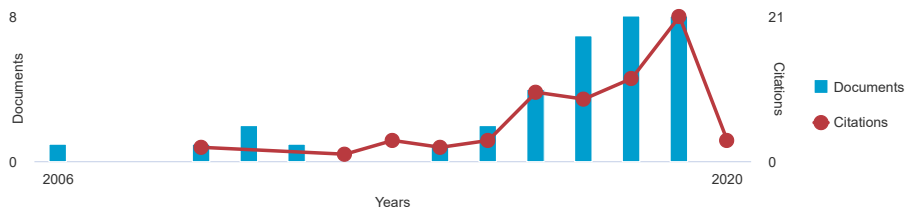
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## Information System Prediction with Weighted Moving Average (WMA) Method and Optimization Distribution Using Vehicles Routing Problem (VRP) Model for Batik Product (Conference Paper) (Open Access)

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### Abstract

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Distributing the products evenly to the customers is the problem faced by the producer of batik product. The purpose of this research is to optimize product distribution using demand prediction data from each store. The way of distributing products affects products brand and revenue in society. To cover this problem we propose the method to fulfil customers demand and to promote the brand by using Weighted Moving Average (WMA) to forecast product demand in each distributor store. To deliver the product for the customer, we are using the model of Vehicle Routing Problem (VRP) and Sequential Insertion Algorithm. We obtained the result that both distribution cost and travel time of distribution is successfully reduced. The results obtained that the WMA method can predict product demand by generate the small error value with MAPE the result is 0 until 17% which classified as very accurate-good. For distribution optimization using the VRP model and Sequential Insertion algorithms the result of optimal costs is IDR 36244, with a previous cost is IDR 150.000 in one month so can reduce 75%. Besides that, the travel time is 130.05 minutes with the distance 69.7 km, and routes that have been optimized. © The Authors, published by EDP Sciences, 2018.

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Algorithm sequential insertion   Batik product   Distribution   Optimization   Vehicle routing problem (VRP)  
Weighted moving average (WMA)

### Indexed keywords

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