COVID-19 DAN SDGS

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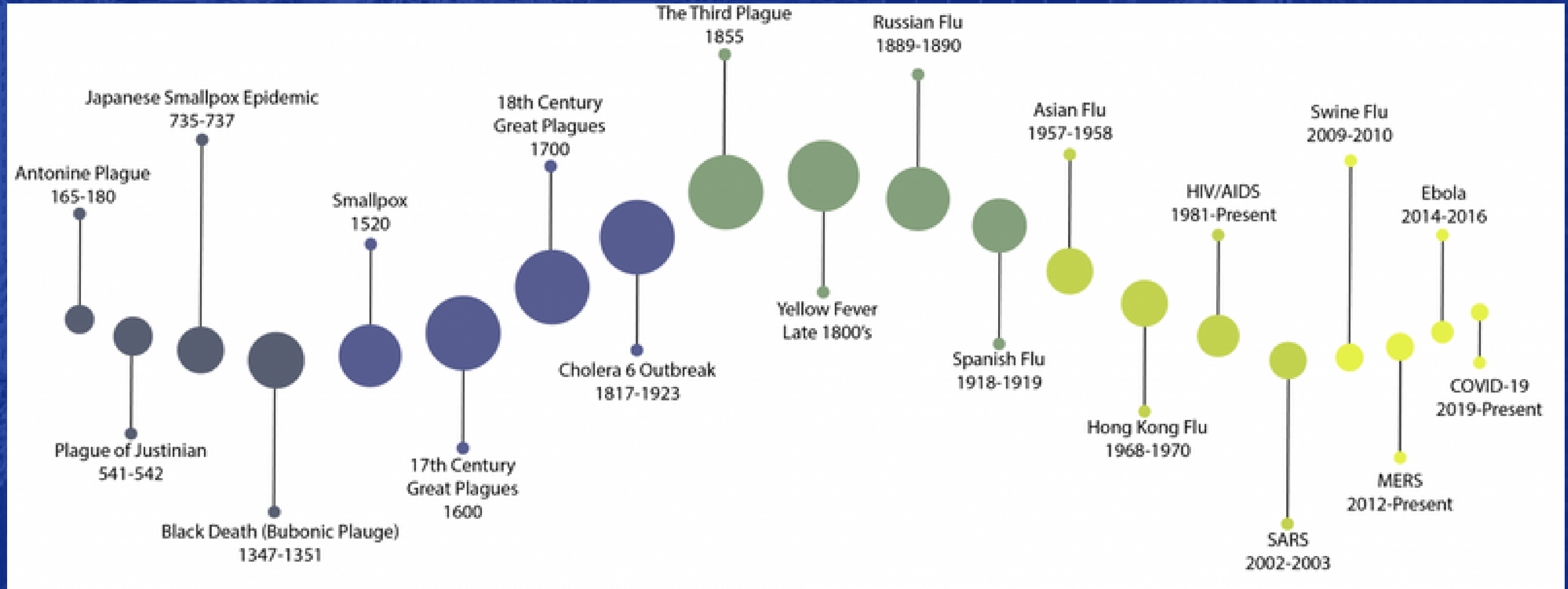
- Senior Researcher, January 2017- now
- BDSRC, Bina Nusantara University

AGENDA

1. Penelitian COVID-19 dari 2019 sampai 2021
2. Analisis Kerentanan Bisnis Perdagangan UMKM selama COVID-19 (SUSENAS)
3. Peran BAZNAS (Text mining dari laporan)
4. Kerentanan Bencana di Papua Barat (SUSENAS)

Q?

What if achieving the SDGs is what the world needs – not only to recover from the current crisis – but to better respond to the next one?



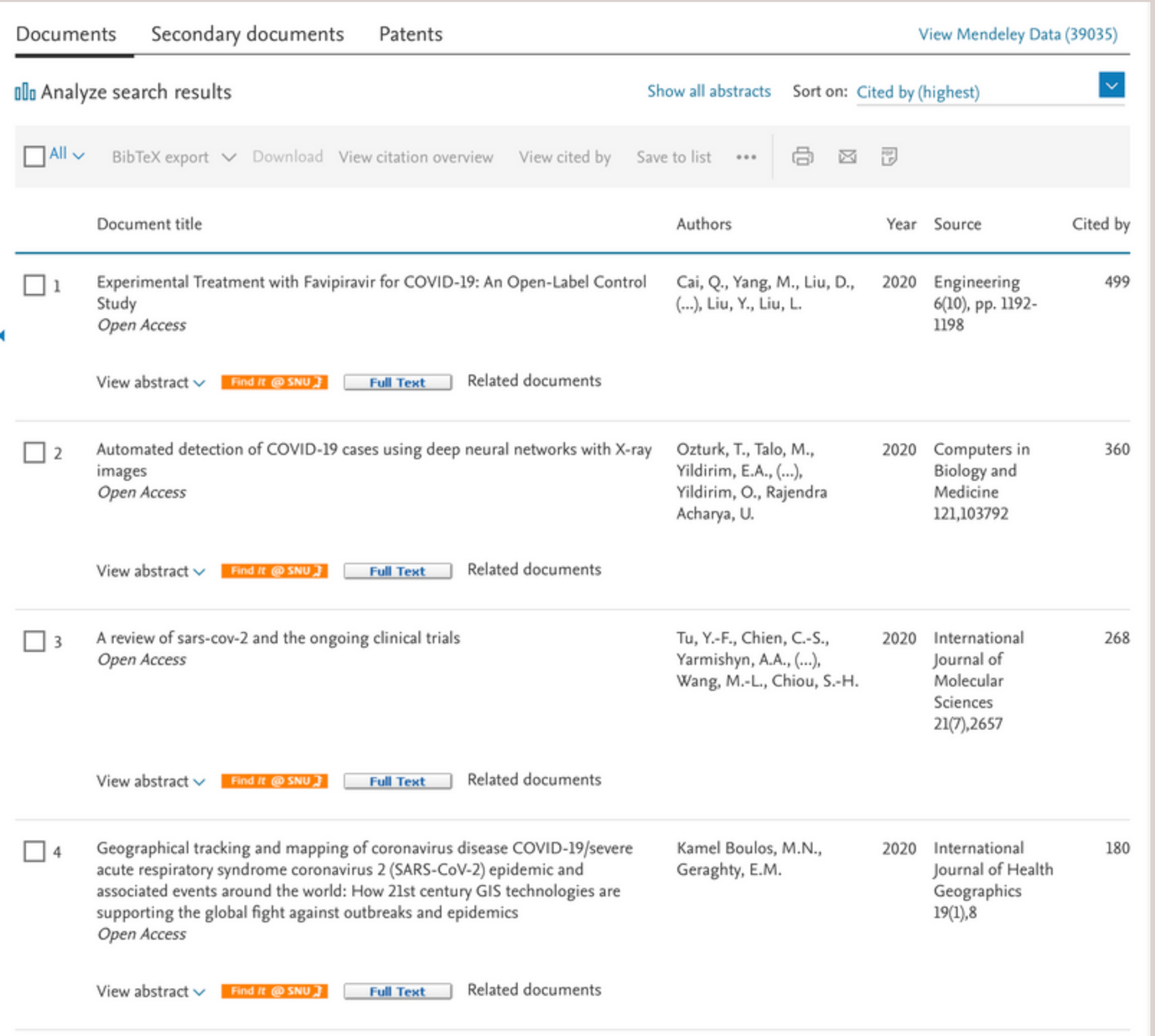
COVID-19 DAN SDGS

PADA 2019-2020, RISET YANG BERKAITAN TENTANG COVID PALING BANYAK MEMBAHAS TENTANG

1. DETEKSI CHEST XRAY
2. KAJIAN DAMPAK LOCKDOWN TERHADAP EKONOMI, LINGKUNGAN, DAN TOPIK SDGS LAINNYA
3. PERAMALAN LAJU PENDERITA HARIAN, RECOVERED, DAN JUMLAH YANG MENINGGAL

	Document title	Authors	Year	Source	Cited by
1	Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China *Open Access* View abstract · Find it @ SNU · Full Text · Related documents	Huang, C., Wang, Y., Li, X., (...), Wang, J., Cao, B.	2020	The Lancet 395(10223), pp. 497-506	15816
2	Clinical characteristics of coronavirus disease 2019 in China *Open Access* View abstract · Find it @ SNU · Full Text · Related documents	Guan, W., Ni, Z., Hu, Y., (...), Zhu, S., Zhong, N.	2020	New England Journal of Medicine 382(18), pp. 1708-1720	10452
3	Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study *Open Access* View abstract · Find it @ SNU · Full Text · Related documents	Zhou, F., Yu, T., Du, R., (...), Chen, H., Cao, B.	2020	The Lancet 395(10229), pp. 1054-1062	8943
4	A novel coronavirus from patients with pneumonia in China, 2019 *Open Access* View abstract · Find it @ SNU · Full Text · Related documents	Zhu, N., Zhang, D., Wang, W., (...), Gao, G.F., Tan, W.	2020	New England Journal of Medicine 382(8), pp. 727-733	8717
5	Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study *Open Access*	Chen, N., Zhou, M., Dong, X., (...), Zhang, X., Zhang, L.	2020	The Lancet 395(10223), pp. 507-513	7592

Bagaimana dengan Computer science?



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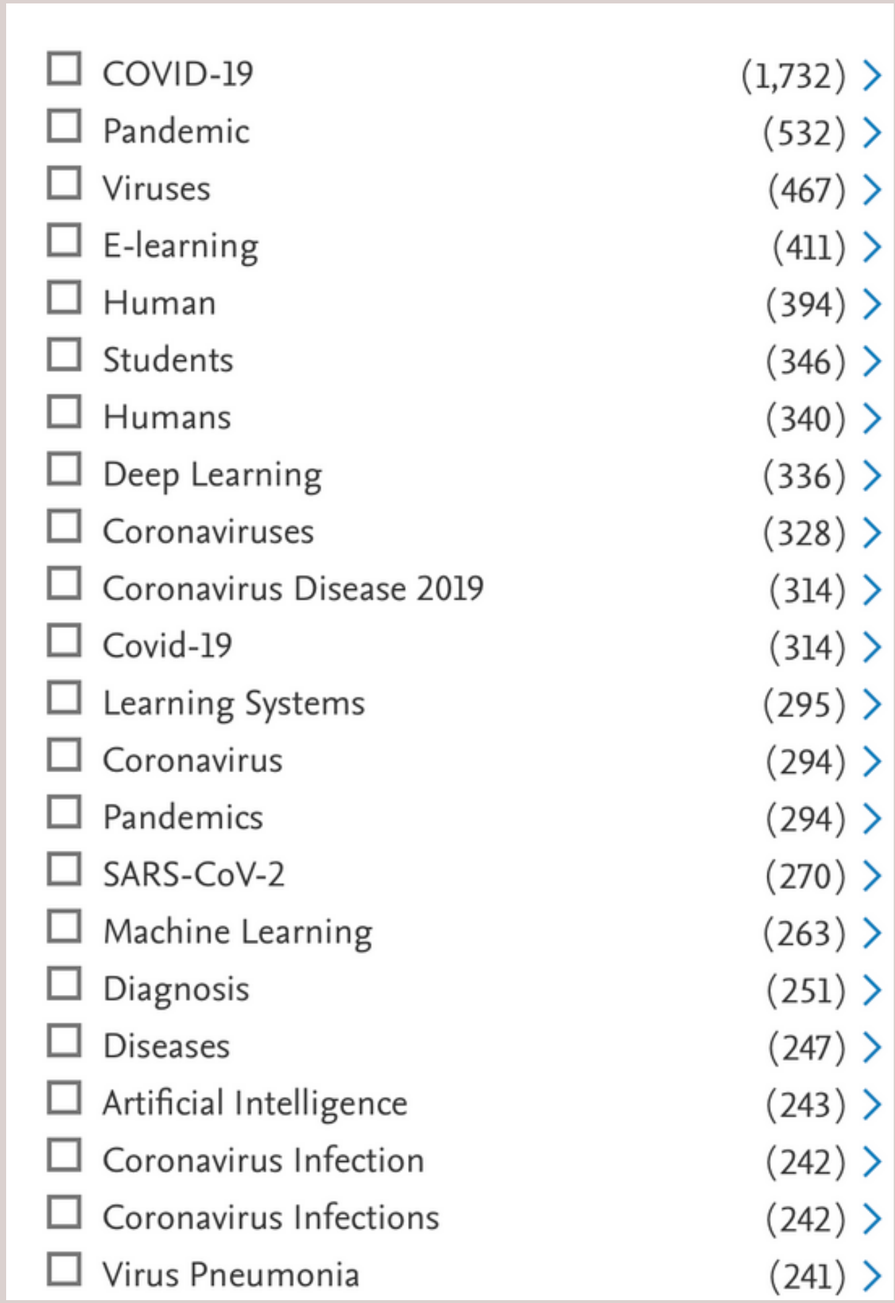
	Document title	Authors	Year	Source	Cited by
1	Experimental Treatment with Favipiravir for COVID-19: An Open-Label Control Study *Open Access* View abstract · Find It @ SNU · Full Text · Related documents	Cai, Q., Yang, M., Liu, D., (...), Liu, Y., Liu, L.	2020	Engineering 6(10), pp. 1192-1198	499
2	Automated detection of COVID-19 cases using deep neural networks with X-ray images *Open Access* View abstract · Find It @ SNU · Full Text · Related documents	Ozturk, T., Talo, M., Yildirim, E.A., (...), Yildirim, O., Rajendra Acharya, U.	2020	Computers in Biology and Medicine 121,103792	360
3	A review of sars-cov-2 and the ongoing clinical trials *Open Access* View abstract · Find It @ SNU · Full Text · Related documents	Tu, Y.-F., Chien, C.-S., Yarmishyn, A.A., (...), Wang, M.-L., Chiou, S.-H.	2020	International Journal of Molecular Sciences 21(7),2657	268
4	Geographical tracking and mapping of coronavirus disease COVID-19/severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) epidemic and associated events around the world: How 21st century GIS technologies are supporting the global fight against outbreaks and epidemics *Open Access* View abstract · Find It @ SNU · Full Text · Related documents	Kamel Boulos, M.N., Geraghty, E.M.	2020	International Journal of Health Geographics 19(1),8	180



- COVID-19 (1,732)
- Pandemic (532)
- Viruses (467)
- E-learning (411)
- Human (394)
- Students (346)
- Humans (340)
- Deep Learning (336)
- Coronaviruses (328)
- Coronavirus Disease 2019 (314)
- Covid-19 (314)
- Learning Systems (295)
- Coronavirus (294)
- Pandemics (294)
- SARS-CoV-2 (270)
- Machine Learning (263)
- Diagnosis (251)
- Diseases (247)
- Artificial Intelligence (243)
- Coronavirus Infection (242)
- Coronavirus Infections (242)
- Virus Pneumonia (241)

Bagaimana dengan studi kasus Indonesia? (Citasi 5 terbanyak)

[HTML] Correlation between weather and **Covid**-19 pandemic in Jakarta, **Indonesia**

R Tosepu, J Gunawan, DS Effendy, H Lestari… - Science of The Total …, 2020 - Elsevier

This study aims to analyze the correlation between weather and **covid**-19 pandemic in Jakarta **Indonesia**. This study employed a secondary data analysis of surveillance data of **covid**-19 from the Ministry of Health of the Republic of **Indonesia** and weather from the …

☆ 99 Cited by 436 Related articles All 17 versions »

[HTML] Review and analysis of current responses to **COVID**-19 in **Indonesia**: Period of January to March 2020

R Djalante, J Lassa, D Setiamarga, A Sudjatma… - Progress in Disaster …, 2020 - Elsevier

The world is under pressure from the novel **COVID**-19 pandemic. **Indonesia** is the fourth most populous country in the world and predicted to be affected significantly over a longer time period. Our paper aims to provide detailed reporting and analyses of the present rapid …

☆ 99 Cited by 333 Related articles All 7 versions »

Impact of **COVID**-19 large scale restriction on environment and economy in **Indonesia**

RE Caraka, Y Lee, R Kurniawan… - Global Journal of …, 2020 - gjesm.net

COVID-19 has a severe and widespread impact, especially in **Indonesia**. **COVID**-19 was first reported in **Indonesia** on March 03, 2020 then rapidly spread to all 34 provinces by April 09, 2020. Since then, **COVID**-19 is declared a state of national disaster and health emergency …

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Impact of **COVID**-19's Pandemic on the Economy of **Indonesia**

S Susilawati, R Falefi, A Purwoko - … International Research and …, 2020 - bircu-journal.com

COVID-19 is a global health problem including in **Indonesia**. The increased case of **COVID**-19 proved to have quite a significant impact on the economy globally which may have affected stability in **Indonesia**. This method of collecting data is a method of study literature …

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The impact of **COVID**-19 outbreak on poverty: An estimation for **Indonesia**

A Suryahadi, R Al Izzati… - Jakarta: The SMERU …, 2020 - researchgate.net

The Coronavirus Disease 2019 (**COVID**-19) is expected to infect millions of people all over the world. The economic impact is expected to be large and can lead to a global recession. Millions of people will be pushed into poverty. In this paper, we estimate the impact of …

☆ 99 Cited by 52 Related articles All 6 versions »

Penelitian Topic COVID-19

1. INDONESIA IN FACING NEW NORMAL: AN EVIDENCE HYBRID FORECASTING OF COVID-19 CASES USING MLP, NNAR AND ELM. ENGINEERING LETTERS 29 (2), Q2
2. CONNECTING CLIMATE AND COMMUNICABLE DISEASE TO PENTA HELIX USING HIERARCHICAL LIKELIHOOD STRUCTURAL EQUATION MODELLING, SYMMETRY 13 (657), 1-21, Q1.
3. CLUSTER AROUND LATENT VARIABLE FOR VULNERABILITY TOWARDS NATURAL HAZARDS, NON-NATURAL HAZARDS, SOCIAL HAZARDS IN WEST PAPUA. IEEE ACCESS 9, 1972-1986, Q1.
4. DID NOISE POLLUTION REALLY IMPROVE DURING COVID-19? EVIDENCE FROM TAIWAN,SUSTAINABILITY 13 (11), 5946, Q1.
5. DETECTION OF COVID-19 CHEST X-RAY USING SUPPORT VECTOR MACHINE AND CONVOLUTIONAL NEURAL NETWORK, COMMUN. MATH. BIOL. NEUROSCI. 2020, ARTICLE ID 42,Q3.
6. IMPACT OF COVID-19 LARGE SCALE RESTRICTION ON ENVIRONMENT AND ECONOMY IN INDONESIA, GLOBAL JOURNAL OF ENVIRONMENTAL SCIENCE AND MANAGEMENT 6 (SPECIAL ISSUE), Q2
7. ZAKAT ADMINISTRATION IN TIMES OF COVID-19 PANDEMIC IN INDONESIA: A KNOWLEDGE DISCOVERY VIA TEXT MINING. JOURNALS INTERNATIONAL JOURNAL OF ISLAMIC AND MIDDLE EASTERN FINANCE AND MANAGEMENT. Q2
8. NATIONAL VACCINATION AND LOCAL INTERVENTIONS IMPACT ON COVID-19 CASES . SUSTAINABILITY (ARTICLE IN PRESS) Q1
9. MICRO, SMALL, AND MEDIUM ENTERPRISES TRADE VULNERABILITY IN INDONESIA: AN ANALYSIS USING OPTIMIZED FUZZY GEODEMOGRAPHIC CLUSTERING. MATHEMATICS. (ARTICLE IN PRESS). Q1

PENTA HELIX COLLABORATION

Open Access Article

Connecting Climate and Communicable Disease to Penta Helix Using Hierarchical Likelihood Structural Equation Modelling

by Rezzy Eko Caraka [1,2,3,4,5,*], Maengseok Noh [6,*], Rung-Ching Chen [3,*], Youngjo Lee [2], Prana Ugiana Gio [7] and Bens Pardamean [5,8]

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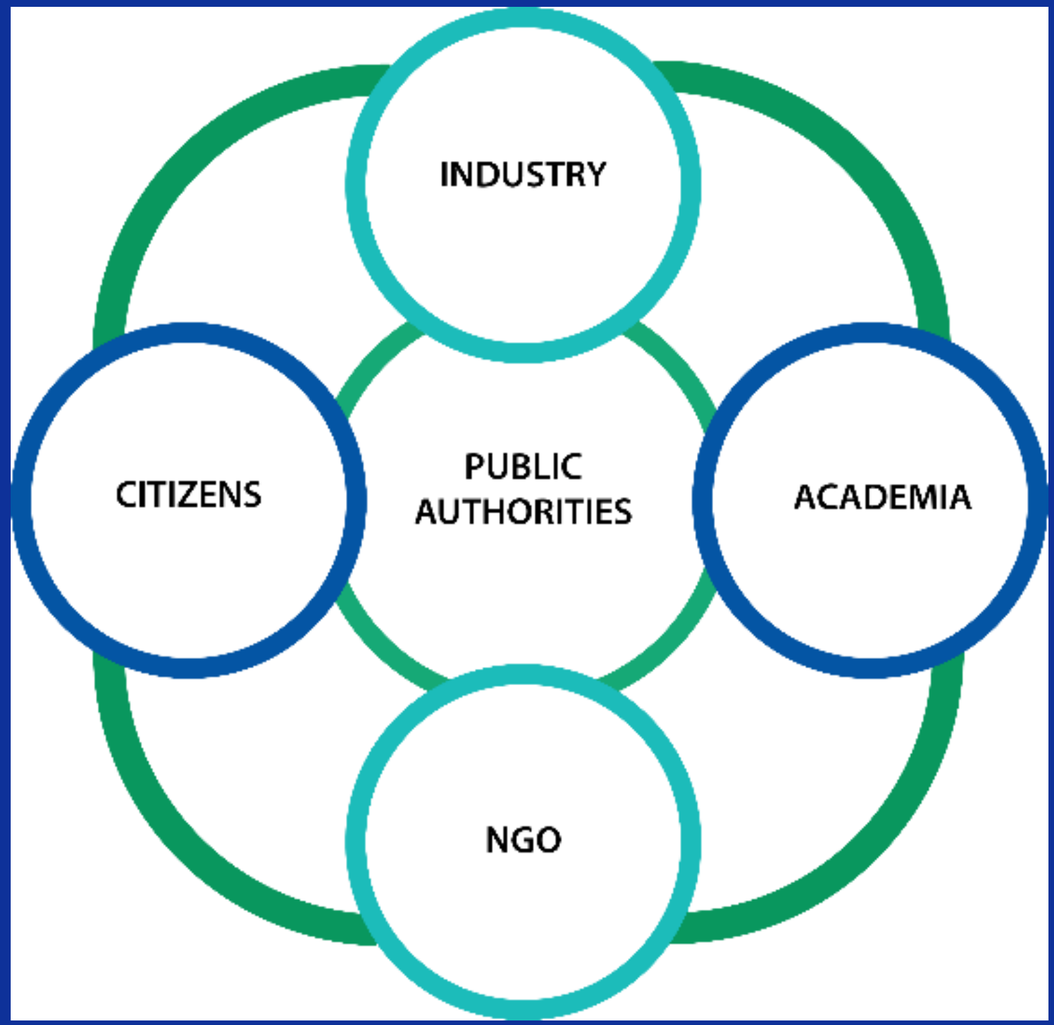
[4] Medical Research Center, Seoul National University Hospital (SNU-H), Seoul 03080, Korea
[5] Bioinformatics and Data Science Research Center, Bina Nusantara University, Jakarta 11480, Indonesia
[6] Department of Statistics, Pukyong National University, Nam-gu, Busan 608-737, Korea
[7] Department of Mathematics, Universitas Sumatera Utara, Medan 20155, Indonesia
[8] Computer Science Department, Bina Nusantara University, Jakarta 11480, Indonesia
* Authors to whom correspondence should be addressed.

Academic Editor: Jan Awrejcewicz

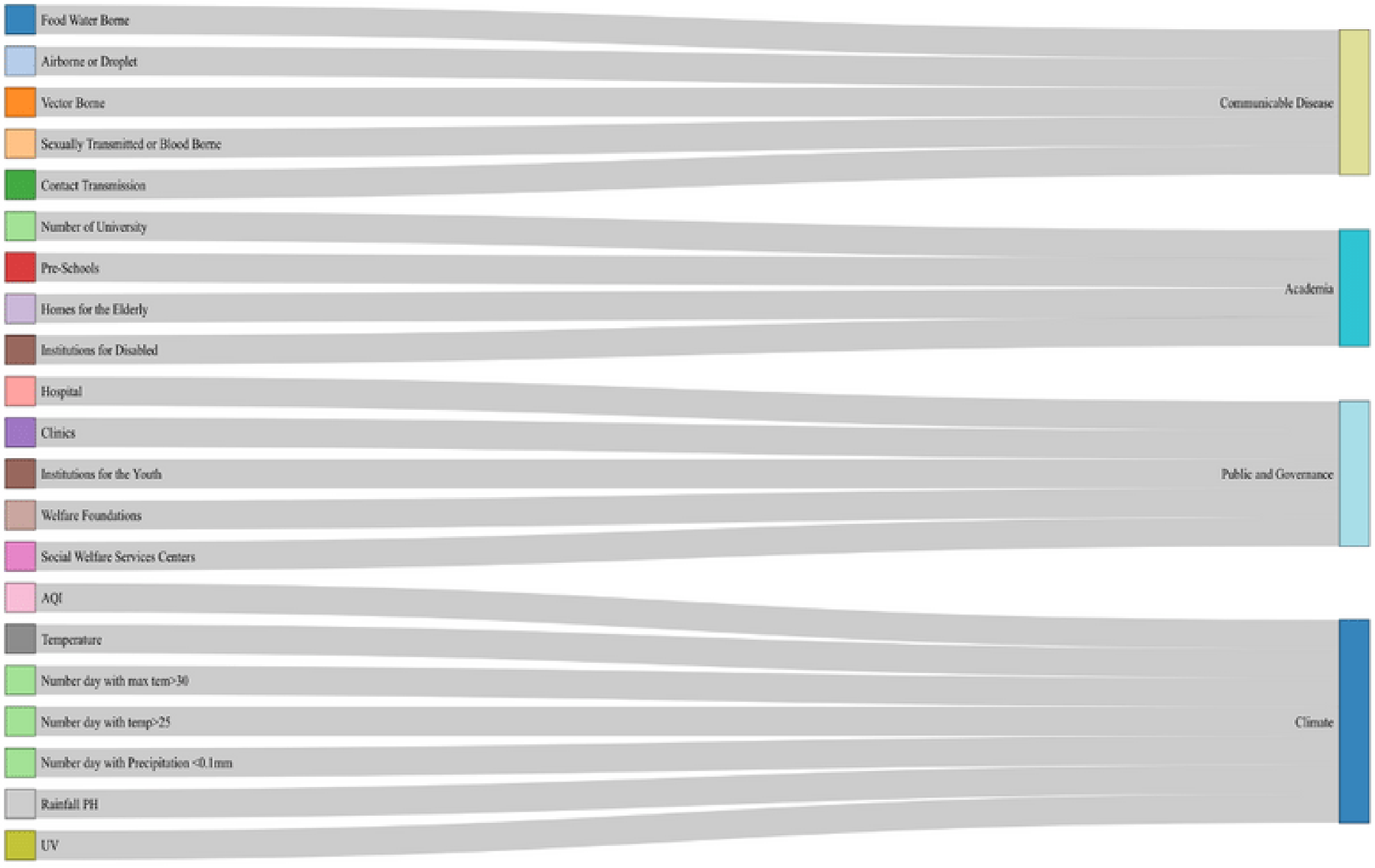
Symmetry **2021**, *13*(4), 657; https://doi.org/10.3390/sym13040657

Received: 24 February 2021 / Revised: 23 March 2021 / Accepted: 23 March 2021 / Published: 12 April 2021

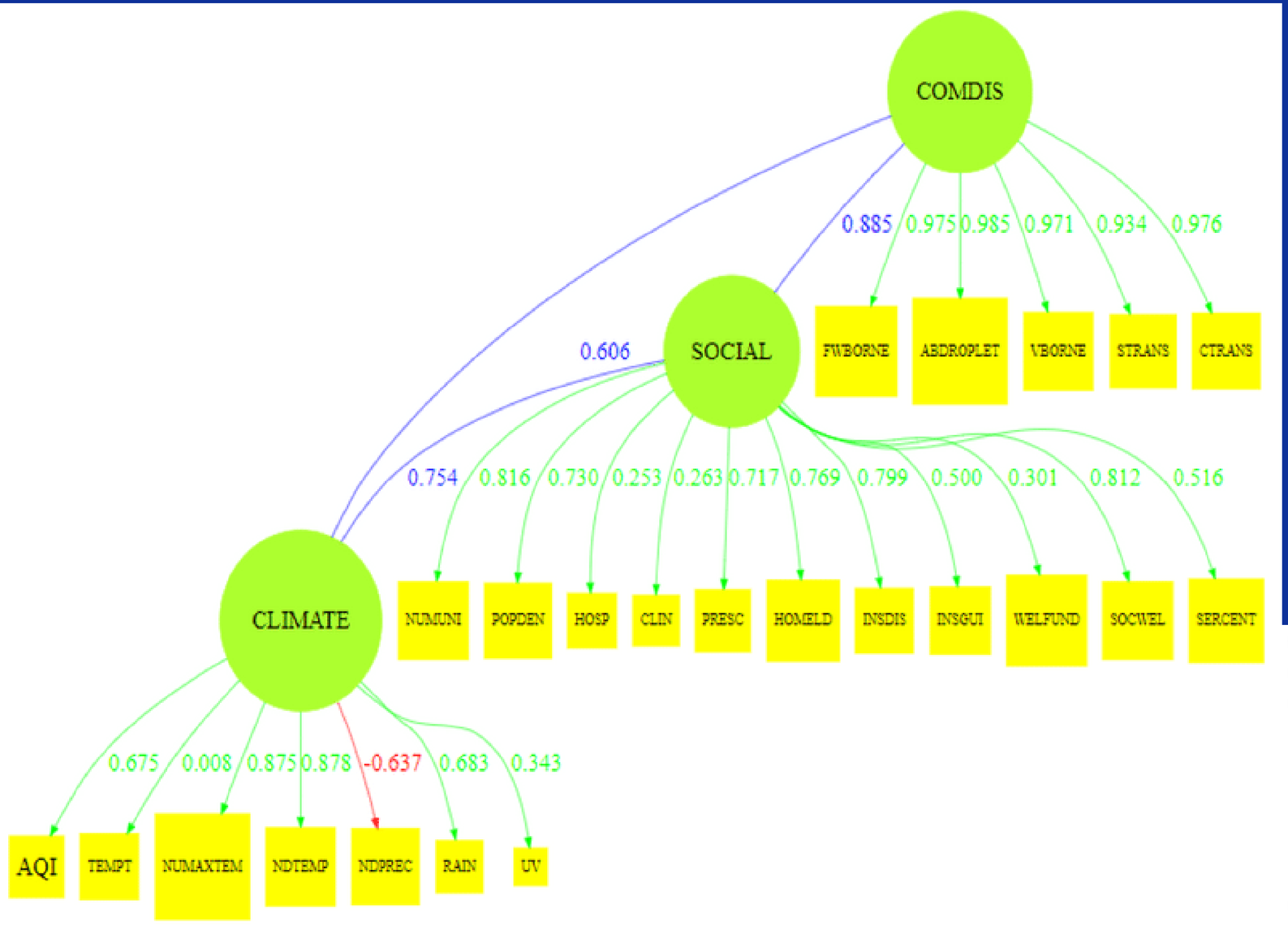
(This article belongs to the Section Mathematics and Symmetry/Asymmetry)



PENTA HELIX COLLABORATION



PENTA HELIX COLLABORATION



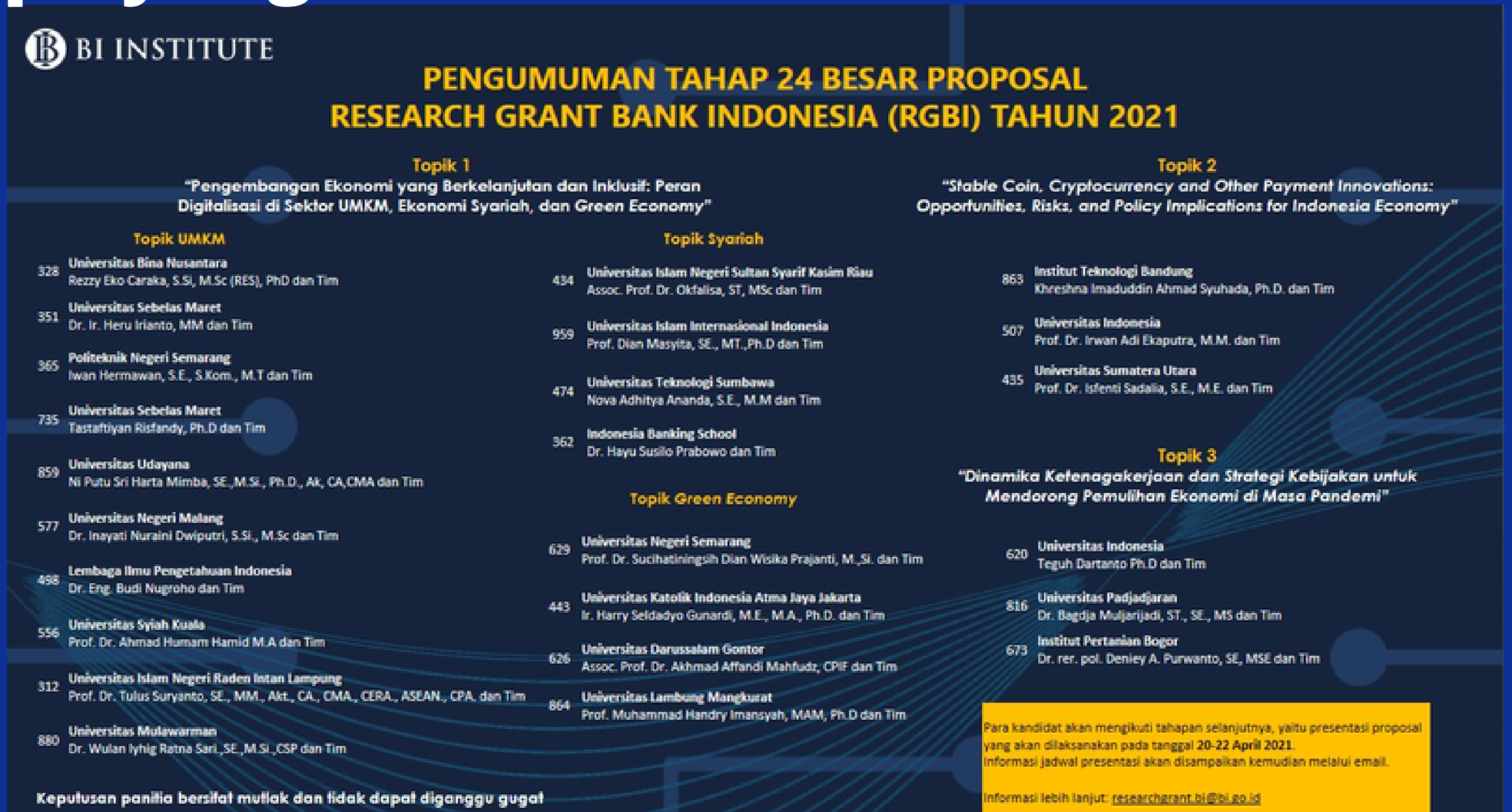
All the relationship variables among climate, communicable disease, and Penta Helix can be in-terpreted through the latent variables with GoF 79.24%.

Table 1. Testing the Outer Model based on Dillon–Goldstein's rho.

Latent Variable	Dillon–Goldstein's rho
Climate	0.640
Social	0.864
Food Water Borne	0.957
Airborne or Droplet	0.975
Vector Borne	0.886
Sexually Transmitted or Blood Borne	0.977
Contact Transmission	0.862

2021

Apa yang akan membuat bisnis survive?



DEMI KEBERLANGSUNGAN, PANDEMI MENERAPKAN BERBAGAI SKEMA ADAPTASI KEBIASAAN BARU, TIDAK HANYA SETIAP INDIVIDU DALAM MENJALANI AKTIVITASNYA, AKAN TETAPI SECARA LANGSUNG KONDISI PANDEMI MENUNTUT PARA PELAKU UMKM MEMUTAR STRATEGI AGAR DAPAT TERUS BERTAHAN DAN PERAN DARI LPDB JUGA SANGAT DIPERLUKAN

Caraka et al

PEMBUATAN DASHBOARD DAN MENYAJIKAN INDEKS KERENTANAN BISNIS UMKM UNTUK MEMBERIKAN REKOMENDASI BAGI PENGAMPU KEBIJAKAN TERKAIT DENGAN PEMETAAN UMKM, PEMANFAATAN PELUANG EKONOMI DIGITAL, DAN EKONOMI BERBASIS LOKAL DI INDONESIA.

Caraka et al

Tujuan penelitian

Penelitian ini digunakan untuk mengukur besarnya peluang digital ekonomi yang dapat dimanfaatkan oleh UMKM di 503 kota/kab di Indonesia, era dan pasca COVID-19. Melakukan identifikasi alternatif kebijakan yang dapat direalisasikan oleh pemerintah pusat dan daerah dalam menjembatani adaptasi UMKM agar dapat bertahan selama pandemi dan pulih secara cepat pasca-pandemi.

KONDISI TERKINI UMKM

Mengkaji kondisi terkini UMKM sebelum dan saat pandemi COVID-19 dan relevansinya dengan pemulihan ekonomi.

MANFAAT TEKNOLOGI DIGITAL

Mengukur besar manfaat teknologi digital yang dimanfaatkan oleh UMKM di Indonesia.

KENDALA UTAMA PEMANFAATAN TEKNOLOGI DIGITAL

Apa kendala utama yang menghambat UMKM dalam penggunaan digital?

INDEKS KERENTANAN PERDAGANGAN

Berapa besaran indeks kerentanan perdagangan UMKM di 503 kota/kab di Indonesia?

KEBIJAKAN & PELUANG

Kebijakan dan program seperti apa yang dibutuhkan untuk membuka potensi UMKM agar dapat memanfaatkan peluang yang diciptakan oleh ekonomi digital?

Machine Learning

Deteksi otomatis pola yang berarti pada sekumpulan data

ekstraksi informasi dari kumpulan data yang besar dan dinamis.

Akurasi Tinggi Bahkan untuk data yang kompleks

Penelitian mengenai mesin pembelajaran terbukti memberikan akurasi yang sangat tinggi dan dapat memberikan solusi untuk mengatasi data yang complex

Memerlukan Expert System

Kemampuan untuk memindai dan memproses basis data yang besar memungkinkan program pembelajaran mesin untuk mendeteksi pola yang berada di luar ruang lingkup persepsi manusia sehingga memerlukan expert system untuk melakukan otomasi secara real time

Metode Penelitian

NASPACLUST

naspaclust: Nature-Inspired Spatial Clustering

OPTIMASI DENGAN BERMACAM-MACAM TIPE OPTIMASI SEPERTI ALGORITMA LEBAH, FLOWER POLLINATION ALGORITHM, PARTICLE SWARM OPTIMIZATION, DLL

`naspaclust: Nature-Inspired Spatial Clustering`

Implement and enhance the performance of spatial fuzzy clustering using Fuzzy Geographically Weighted Clustering with various optimization algorithms, mainly from Xin She Yang (2014) <ISBN:9780124167438> with book entitled Nature-Inspired Optimization Algorithms. The optimization algorithm is useful to tackle the disadvantages of clustering inconsistency when using the traditional approach. The distance measurements option is also provided in order to increase the quality of clustering results. The Fuzzy Geographically Weighted Clustering with nature inspired optimisation algorithm was firstly developed by Arie Wahyu Wijayanto and Ayu Purwarianti (2014) <doi:10.1109/CITSM.2014.7042178> using Artificial Bee Colony algorithm.

Version:	0.1.0
Depends:	R (≥ 3.5.0)
Imports:	Rdpack, rdist, stabledist, beepr
Suggests:	ppclust, spatialClust, cluster, ggplot2
Published:	2021-03-12
Author:	Bahrul Ilmi Nasution [aut, cre], Robert Kurniawan [aut], Rezzy Eko Caraka [aut]
Maintainer:	Bahrul Ilmi Nasution <bahrulnst at gmail.com>
License:	GPL-3
NeedsCompilation:	no
CRAN checks:	naspaclust results

`Downloads:`

Reference manual:	naspaclust.pdf
Package source:	naspaclust_0.1.0.tar.gz
Windows binaries:	r-devel: naspaclust_0.1.0.zip, r-release: naspaclust_0.1.0.zip, r-oldrel: naspaclust_0.1.0.zip
macOS binaries:	r-release: naspaclust_0.1.0.tgz, r-oldrel: naspaclust_0.1.0.tgz

`Linking:`

Please use the canonical form `https://CRAN.R-project.org/package=naspaclust` to link to this page.

DATASET

- DATA PRIMER (SURVEY UMKM)
- SAKERNAS
- SUSENAS
- PEMBAYARAN MORAL KARTU KREDIT

Pada tahap pembentukan indeks kerentanan bisnis UMKM, penelitian ini menggunakan lokasi yang masuk pada kategori wilayah tertinggal, terdepan dan terluar Indonesia, sesuai dengan Peraturan Presiden (Perpres) Nomor 63 Tahun 2020 tentang penetapan daerah tertinggal tahun 2020-2024 yakni sebanyak 62 daerah.

DATASET PRIMER

Pada tahap pembentukan indeks kerentanan perdagangan (TVI) UMKM, penelitian ini menggunakan lokasi yang masuk pada kategori wilayah tertinggal, terdepan dan terluar Indonesia (Tabel 1), sesuai dengan Peraturan Presiden (Perpres) Nomor 63 Tahun 2020 tentang penetapan daerah tertinggal tahun 2020-2024 yakni sebanyak 62 daerah.

Table 1. Pengumpulan Data Primer

Teknik Pengumpulan Data	**Informasi yang digali**
Kuesioner	- Profil pemilik UMKM - Profile UMKM yang meliputi *Business size* dan Potential market - Motivasi UMKM yang meliputi motivasi berwirausaha dan motivasi penggunaan digital - Perilaku penggunaan digital UMKM dalam bertransaksi, *campaign* dan melakukan metode pembayaran - Pengaruh digital pada peningkatan pendapatan UMKM - Pengaruh covid terhadap UMKM - Kesiapan UMKM terkait penggunaan digital yang lebih inklusif
Interview	Menggali informasi terkait : - Hambatan yang dirasakan oleh UMKM sebelum dan saat pandemi, - Manfaat dan hambatan UMKM dalam penggunaan digital
Field Observation	Melakukan pengamatan terkait : - Perilaku UMKM dalam bertransaksi - Ketersediaan dan aksesibilitas UMKM terhadap infrastruktur digital di wilayah 3T

DATASET SEKUNDER

Secara spesifik, target SUSENAS adalah; ketersediaan data dasar kesejahteraan masyarakat, di tingkat kabupaten/ kota, menghimpun data rinci tentang perumahan dan kesehatan di tingkat provinsi.

01

SUSENAS

- Informasi, Teknologi, dan Komunikasi
- Akses ke layanan keuangan
- Uraian sumber pendapatan
- rumah tangga

Pengumpulan data ketenagakerjaan melalui SAKERNAS mempunyai tiga tujuan utama. Ketiga tujuan tersebut adalah untuk mengetahui : Kesempatan kerja, dan kaitannya dengan pendidikan, jumlah jam kerja, jenis pekerjaan, lapangan pekerjaan dan status pekerjaan; Pengangguran dan setengah pengangguran; Penduduk yang tercakup dalam kategori bukan angkatan kerja yaitu, mereka yang sekolah, mengurus rumah tangga dan melakukan kegiatan lainnya

02

SAKERNAS

- Blok V Karakteristik Umum
- V.D Pekerjaan Utama (VD)
- V.G Pengalaman Kerja

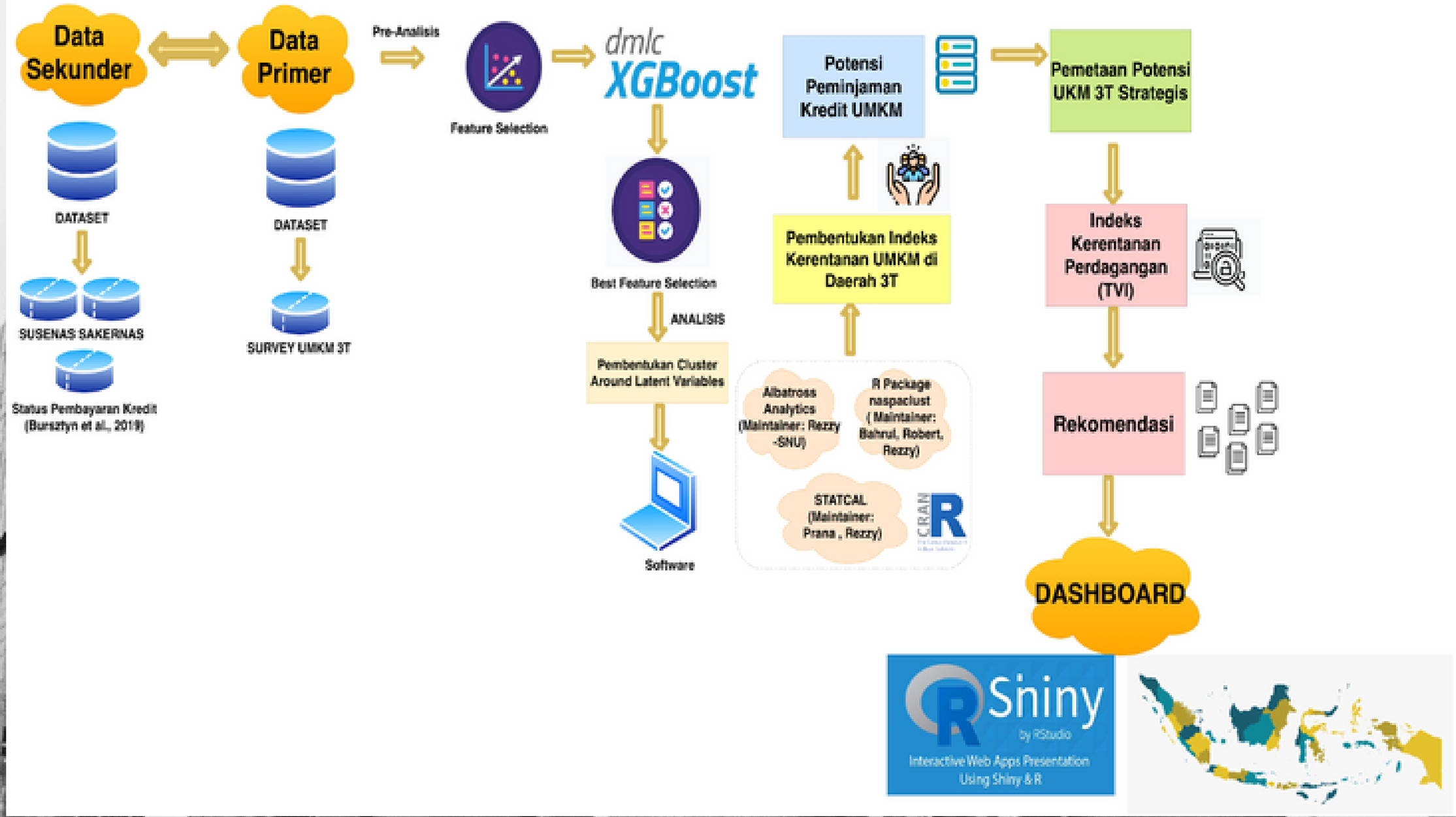
Keterjangkauan UMKM terhadap akses dan pemanfaatan keuangan menjadi hal yang penting untuk melakukan identifikasi perilaku keuangan maupun dukungan modal dalam menjalankan wirausaha. Untuk menganalisis kemampuan pembayaran kartu kredit, penelitian ini menggunakan data sekunder dari Bursztyn et al., (2019).

03

Pembayaran Moral Kartu Kredit

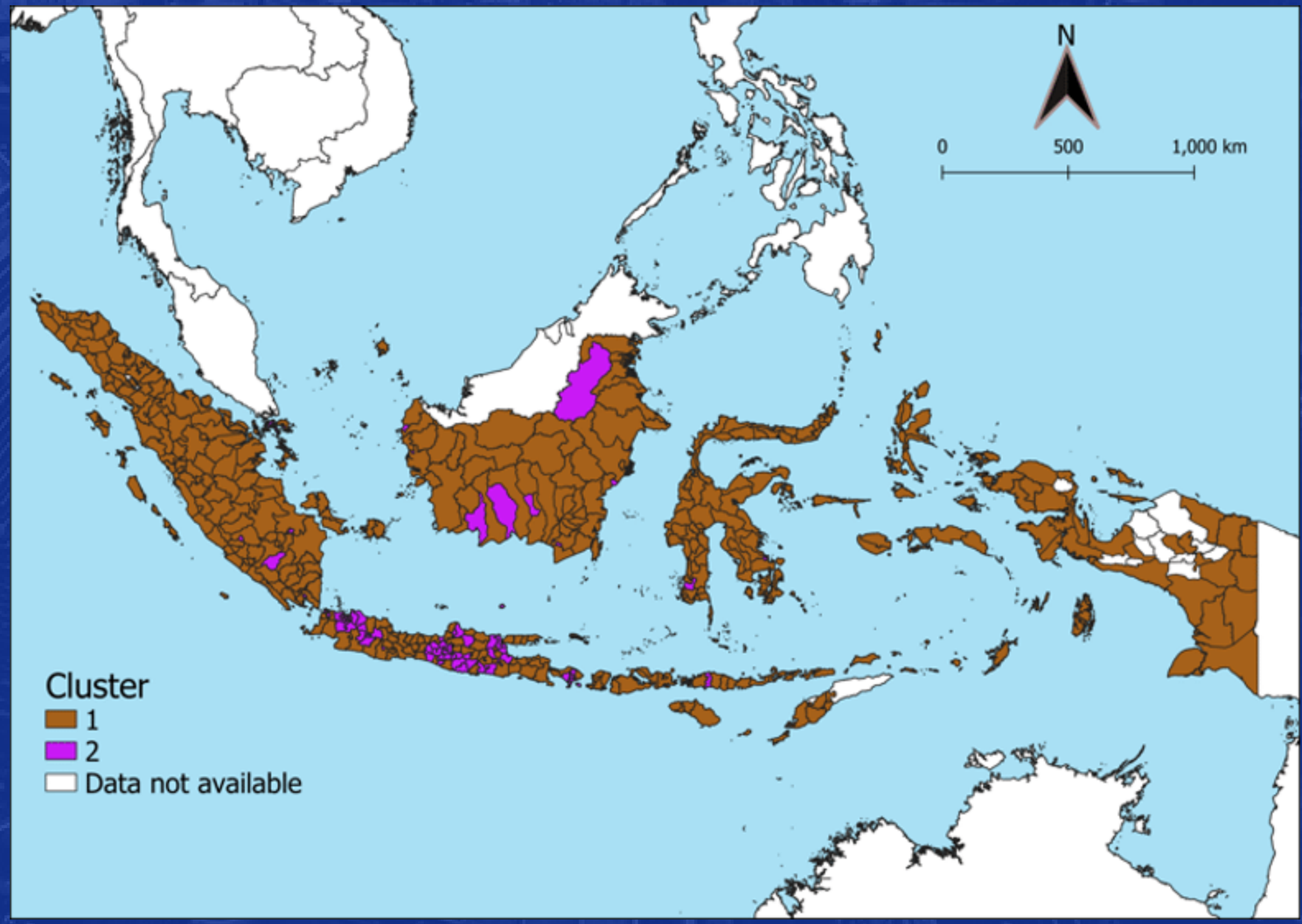
- Umur ,
- Jumlah dibayar Kembali,
- cash rebate,
- batas kredit,
- debt income,
- tunggakan,
- pendapatan,
- status kredit,
- batas kredit,
- risiko kredit.

KONSEP PENGERJAAN


Data Sekunder
Data Primer
Pre-Analisis
Feature Selection
dmlc XGBoost
Potensi Peminjaman Kredit UMKM
Pemetaan Potensi UKM 3T Strategis
DATASET
DATASET
SUSENAS SAKERNAS
Status Pembayaran Kredit (Bursztyn et al., 2019)
SURVEY UMKM 3T
Best Feature Selection
ANALISIS
Pembentukan Cluster Around Latent Variables
Software
Pembentukan Indeks Kerentanan UMKM di Daerah 3T
Albatross Analytics (Maintainer: Rezzy -SNU)
R Package naspaclust (Maintainer: Bahrul, Robert, Rezzy)
STATCAL (Maintainer: Prana , Rezzy)
CRAN R
Indeks Kerentanan Perdagangan (TVI)
Rekomendasi
DASHBOARD
Sniny
by RStudio
Interactive Web Apps Presentation Using Shiny & R

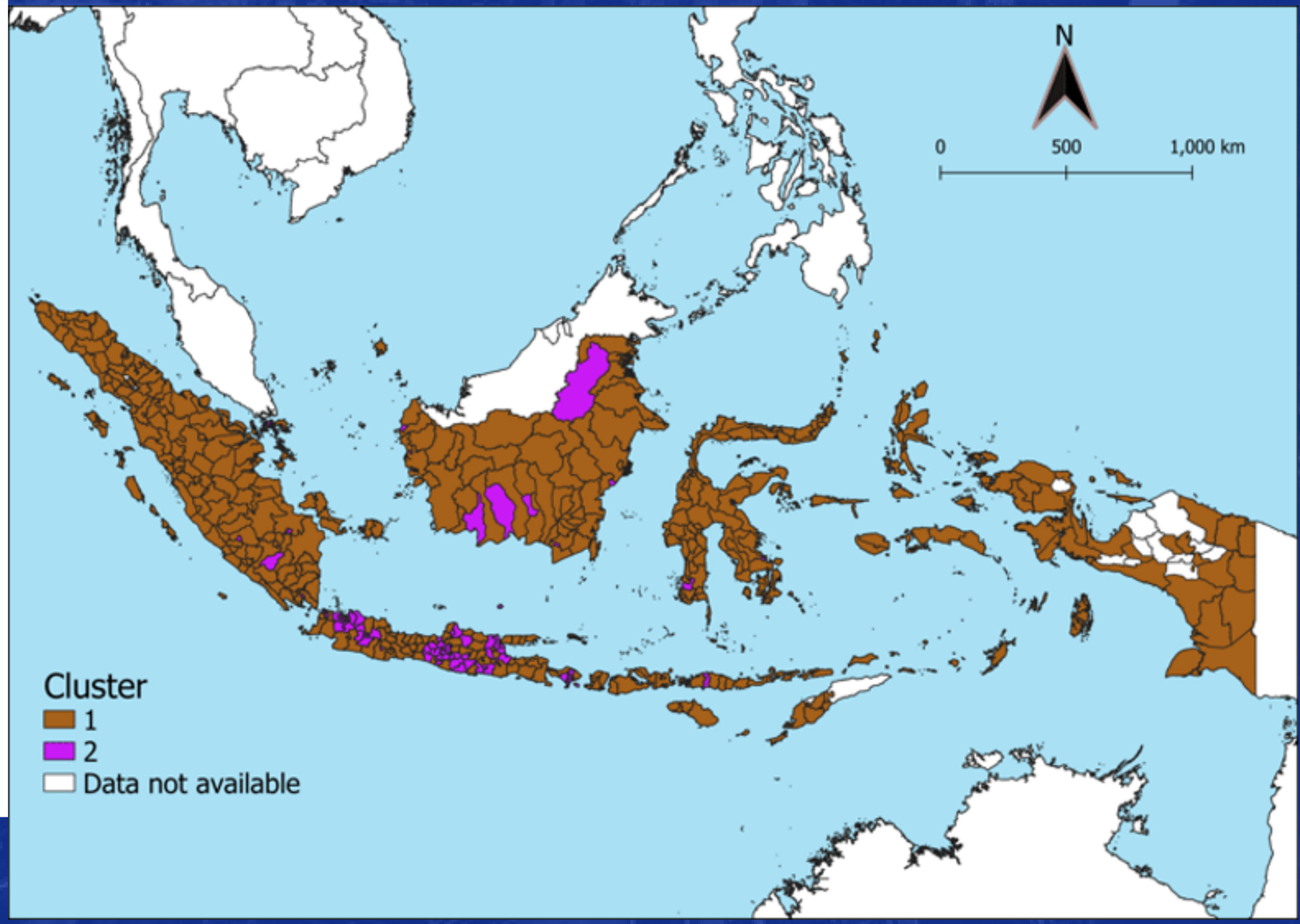
Cluster

1. The cluster 1 dominates almost the whole part of Indonesia.
2. Meanwhile, the cluster 2 mostly spreads around Java island, including JABODATABEK (Jakarta, Bogor, Depok, Tangerang and Bekasi) and some are in Kalimantan and only one district in Sumatera.
3. Based on the cluster mean, it seems that there are some variables with slight mean dif-ference between clusters, such as money source from the working household member which produce the relatively same percentage.



Cluster

1. On the other hand, mean in cluster 1 tend to be smaller than cluster 2, except for course, micro enterprise, and household work organization. On the other hand.
2. Thus, we can conclude that the cluster 1 is the vulnerable cluster and cluster 2 is the non-vulnerable cluster. The vulnerability in cluster 2 is happened because of the lower percentage of people who got course, the lower percentage of micro enterprise, and the household work organization.
3. This is due to the Java is the most developed area in Indonesia which has many industrial areas.



Cluster

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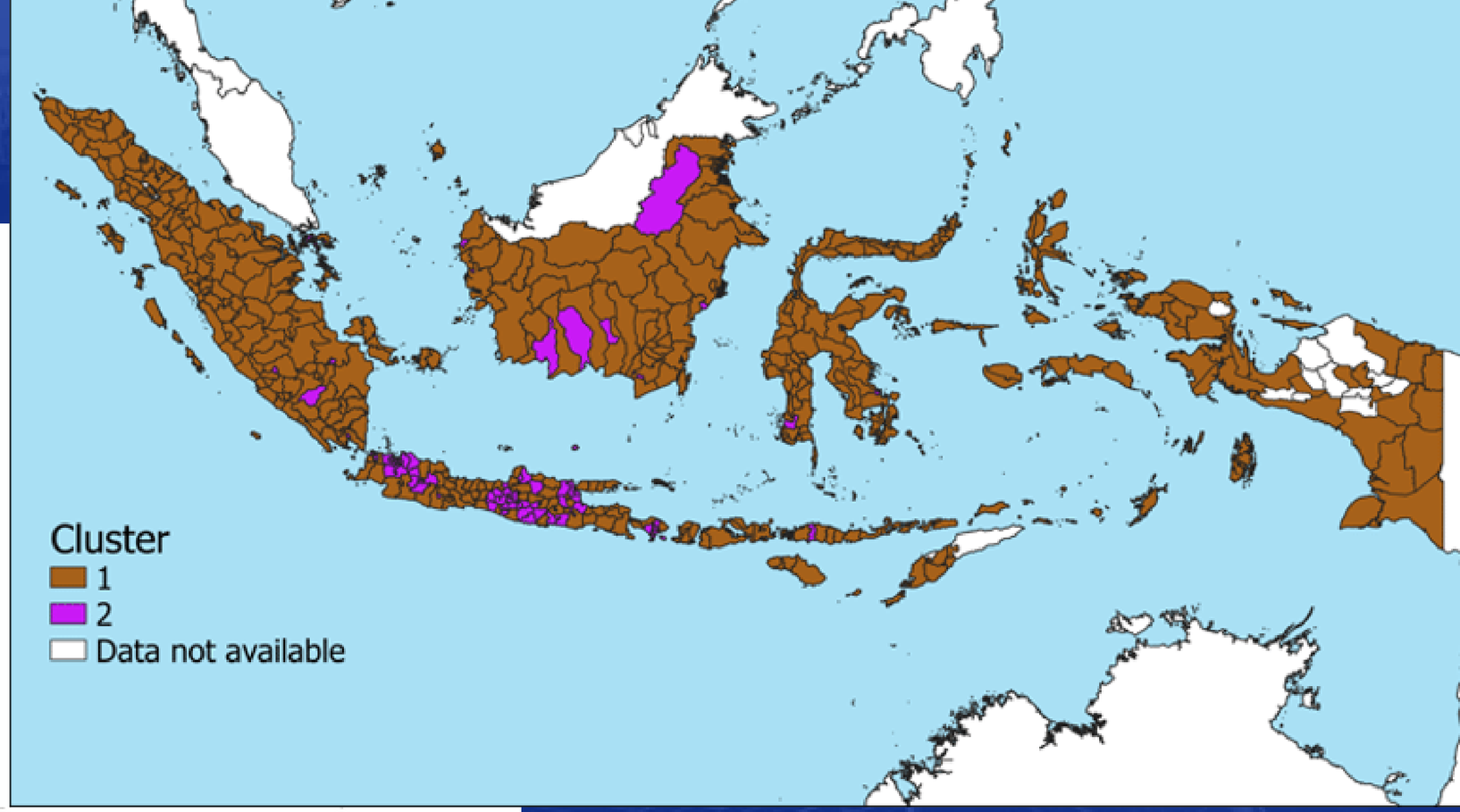

Table 5. Cluster mean using FPAFGWC

cluster	use_cellph	have_cellph	use_pc	acc_int	saving	credit_A	credit_B	credit_C	credit_D
1	88.25552	80.55931	15.37845	27.27296	34.50903	9.506159	10.82205	2.227692	4.093793
2	89.42493	85.69444	27.77035	47.54352	45.87103	11.127022	12.41292	3.176292	5.00927
	sour_money	edu	course	job_dur	no_empl_14	no_empl_519	digitech1	digitech2	digitech3
1	96.96485	46.61807	88.37956	44.57606	84.07763	14.43613	10.33827	39.21705	24.71888
2	96.38307	63.90895	83.51627	47.63658	80.92	16.39125	24.34142	68.87062	40.24244
	job_int	jobint_use1	jobint_use2	jobint_use3	jobint_use4	financebook	work_org	work_loc	prev_work
1	25.97092	25.30045	11.53989	10.93522	2.296787	55.59538	94.41761	30.41872	49.09258
2	61.53131	60.9503	33.52371	34.04755	9.251676	71.5543	92.99104	38.11023	59.03073

OUR DASHBOARD

http://smevulnerability.org

Bagaimana Peran Zakat?

The current issue and full text archive of this journal is available on Emerald Insight at:
https://www.emerald.com/insight/1753-8394.htm

Zakat administration in times of COVID-19 pandemic in Indonesia: a knowledge discovery via text mining

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Abstract

Purpose – Zakat during the COVID-19 outbreak has played a vital role and has been significantly discussed in the virtual environment. Such information about zakat in the virtual world creates unstructured data, which contains important information and knowledge. This paper aims to discover knowledge related to zakat administration during the pandemic from the information in a virtual environment. Furthermore, the discussion is contextualised to the socio-economic debates.

Design/methodology/approach – This is a qualitative study operated via text mining to discover knowledge of zakat administration during the COVID-19 pandemic. The National Board of Zakat Republic of Indonesia (BAZNAS RI) is selected for a single case study. This paper samples BAZNAS RI's situation report on COVID-19 from its virtual website. The data consists of 40 digital pages containing 19,812 characters, 3,004 words and 3,003 white spaces. The text mining analytical steps are performed via RStudio. The following R packages, networkD3, igraph, ggraph and ggplot2 are used to run the Latent Dirichlet Allocation (LDA) for topic modelling.

Findings – The machine learning analysis via RStudio results in the 16 topics associated with the 3 primary topics (i.e. Education, Sadaqah and Health Services). The topic modelling discovers knowledge about BAZNAS RI's assistance for COVID-19 relief, which may help the readers understand zakat administration in times of the pandemic from BAZNAS RI's virtual website. This finding may draw the theory of socio-economic zakat, which explains that zakat as a religious obligation plays a critical role in shaping a Muslim community's social and economic processes, notably during the unprecedented times of COVID-19.

Research limitations/implications – This study uses data from a single zakat institution. Thus, the generalisation of the finding is limited to the sampled institution.

Practical implications – This research is both theoretically and practically important for academics and industry professionals. This paper contributes to the novelty in performing text mining via R in gaining knowledge about the recent zakat administration from a virtual website. The finding of this study (i.e. the topic modelling) is practically essential for zakat stakeholders to understand the contribution of zakat in managing the COVID-19 impacts.

Social implications – This work derives a theory of "socio-economic zakat" that explains the importance of a zakat institution in activating zakat for managing socio-economic issues during the pandemic. Thus,

This paper is entirely of the authors' work that does not represent any institution.

International Journal of Islamic and Middle Eastern Finance and Management

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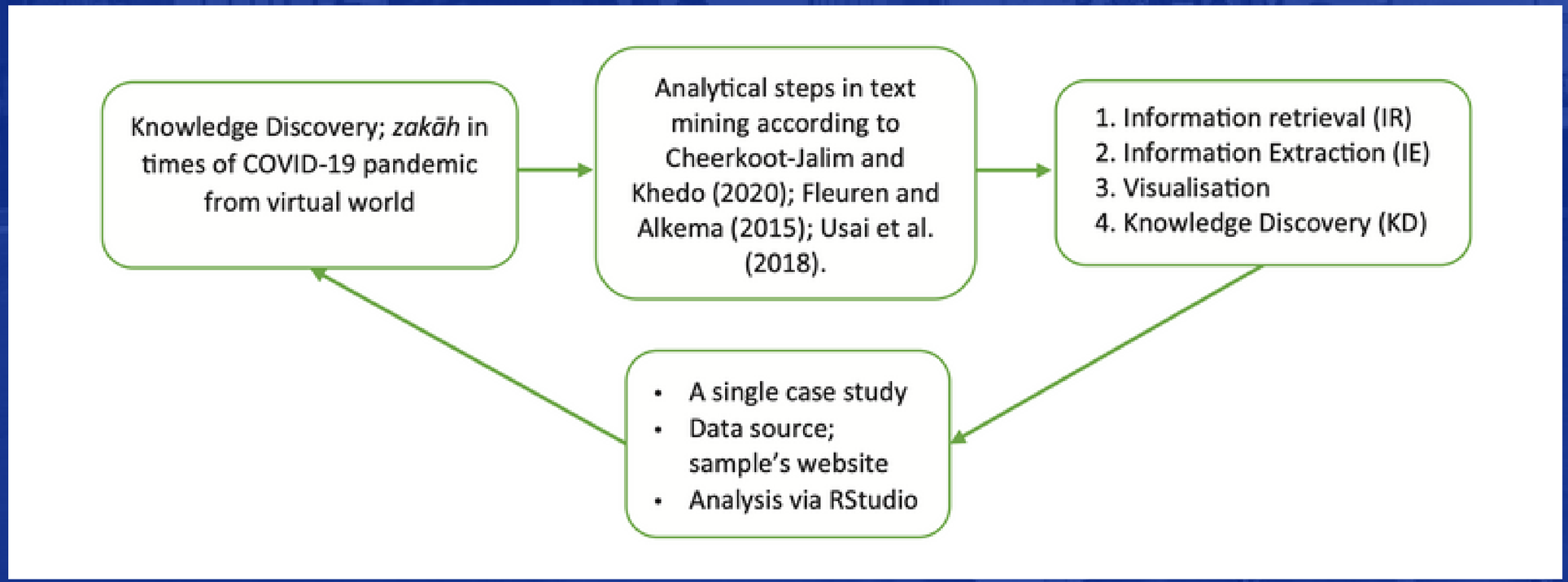
- **Analisis Menggunakan Laporan PDF Baznas**

  The data consists of 40 digital pages containing 19,812 characters, 3,004 words and 3,003 white spaces.

- **Menggunakan Text Mining**

FRAMEWORK

At the time of this study, 40 documents of situation report on COVID-19 are available online. The document has been published since March 2020 and is written in Bahasa (Indonesian language). The latest document is report No. 40, which is published on 14 September 2020. For the analysis, this paper purposefully selected the latest document (i.e. No. 40), which contains 40 digital pages, 19,812 characters, 3,004 words and 3,003 white spaces. This report contains the information about Indonesia’s zak"ah administration during the pandemic.



Apa yang Dilakukan oleh BAZNAS?

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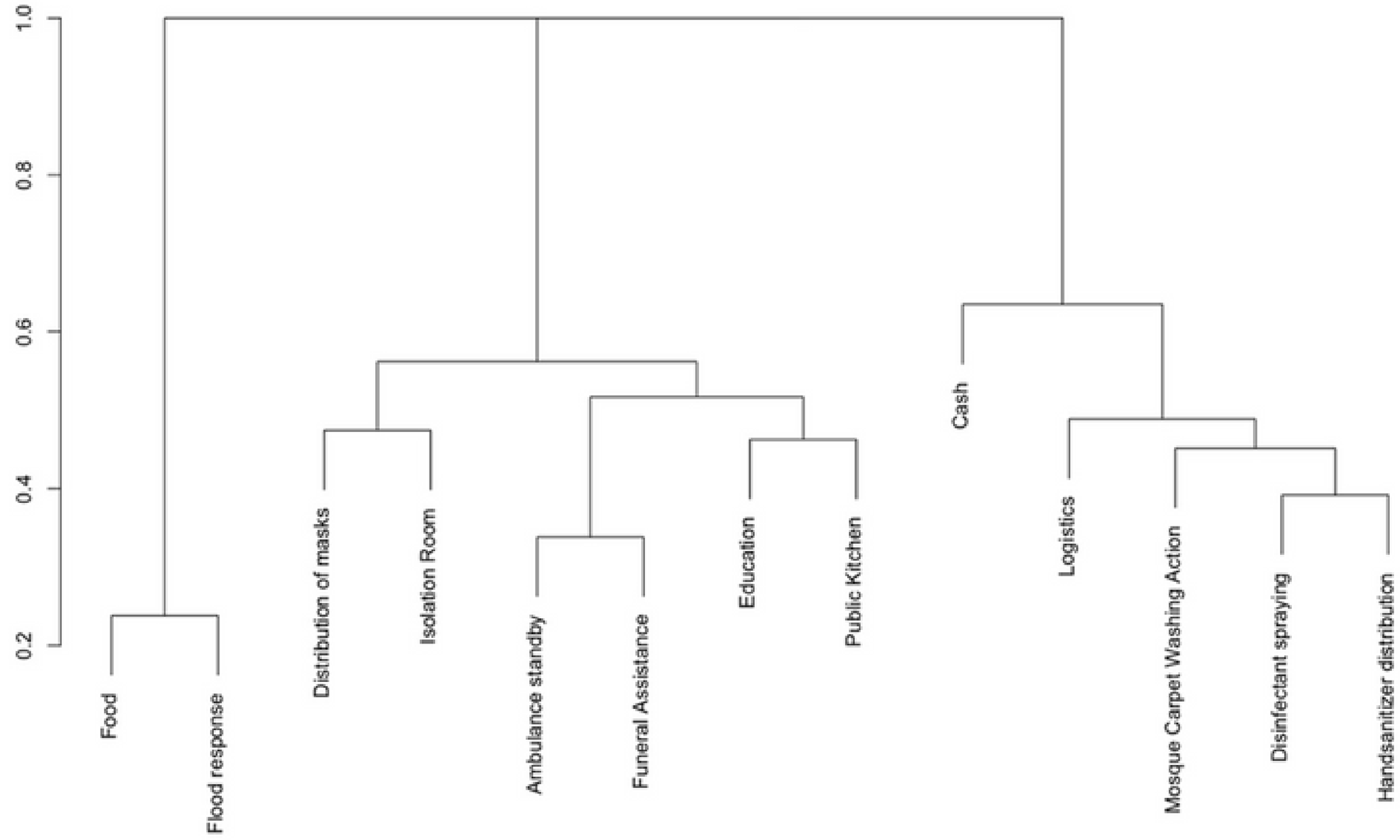
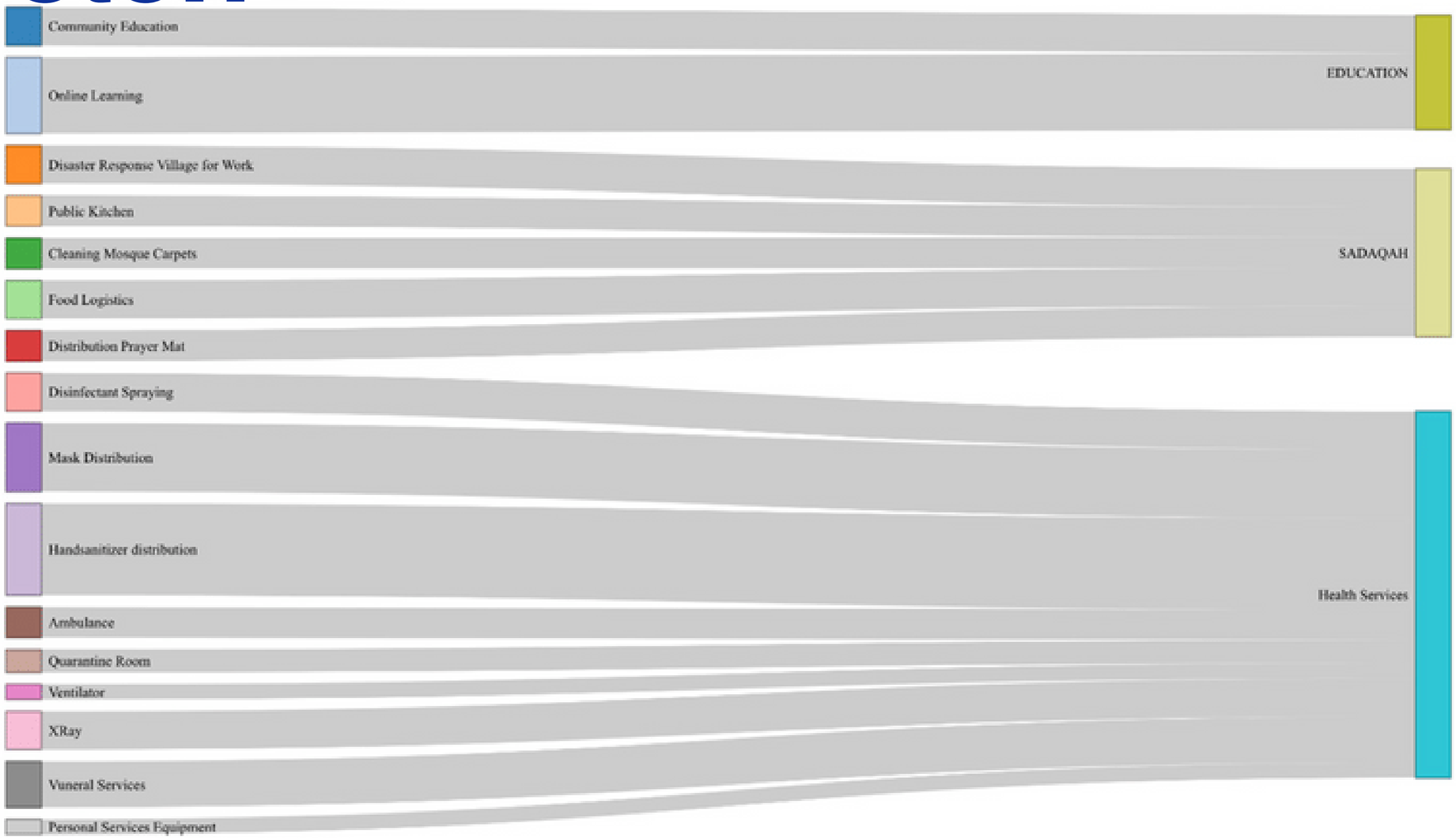


Source: Author's analysis via R package *dendextend*

Apa yang Dilakukan oleh BAZNAS?



Source: Authors' analysis via R package *networkD3*

BAGAIMANA KERENTANAN DI PAPUA BARAT?

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Cluster Around Latent Variable for Vulnerability Towards Natural Hazards, Non-Natural Hazards, Social Hazards in West Papua

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ABSTRACT The diagnosis of a hazard can be classified into three key domains, particularly regarding the natural hazards, non-natural hazards and social hazards. The disasters which have actually happened in West Papua require considerable attention and consideration of the Indonesian Government, despite since they have handled as much as they can to provide solutions and make people feel secure and pleasant. The purpose of this study is to calculate the location-based social vulnerability in West Papua involves the components of Information, Technology, and Communication, Food Access, Natural Disaster, Social Protection Statement, Access to Financial Services, Description of the source of household income, Number of event floods, number of earthquake disasters, COVID-19 death cases, and Number of incidents of protest which are obtained from the National Socio-Economic Survey (SUSENAS) official statistics with the main focus of research on the millennial generation. After employ clustering of variables around latent variables with connectivity value of 3.9400794, Dunn 0.9373, and Silhouette 0.6333. Each factor provide a sign indicating a positive or negative effect on social vulnerability and finally a location cluster will be formed based on the index obtained.

INDEX TERMS Latent cluster, millennial, natural hazard, non-natural hazard, social hazard, vulnerability.

DATASET

Information, Technology, and Communication (X_1) Scale : Yes…..1 No…..5 Sources: SUSENAS 2017	[R701] Are you using a cell phone?
	[R702] Do you have a cell phone?
	[R703] Do you use a computer (pc / desktop, laptop / notebook / tablet?
	[R704] Have you ever accessed the internet (including Facebook, Twitter, BBM, and WhatsApp)?
Food Access. (X_2) Scale : Yes…..1 No…..5 Unknown…..8 Not Answer…..9 Sources: SUSENAS 2017	[R1501] During the past year, have you / other household members worried about not having enough food to eat due to lack of money or other resources?
	[R1502] During the past year, have there been times when you / other household members were unable to eat healthy and nutritious food due to a lack of money or other resources?
	[R1503] During the past year, did you / other household members eat only a few types of food because they did not have money or other resources?
	[R1504] During the past year, have you / other household members missed meals on a certain day because they did not have enough money or other resources to get food?
	[R1505] During the past year, did you / other household members eat less than they should because of a lack of money or other resources?
	[R1506] During the past year, has the household run out of food due to lack of money or other resources?
	[R1507] During the past year, did you / other household members feel hungry but did not eat because of lack of money or other resources to get food?
	[R1508] During the past year, did you / other household members not eat all day because of lack of money or other resources?

Housing status (X_3) Owned …..1 Contract / Lease……2 Rental Free…..3 Office …..4 Others …..5 Sources: SUSENAS 2017	[R1602] What is the ownership status of the occupied building?
Natural disaster (X_4) Scale : Yes…..1 No…..5 Sources: SUSENAS 2017	[R1801A] Has (name) experienced natural disasters (such as earthquake, flood, tsunami, and tornado)?
	[R1802A] Is the neighborhood (name) included in the environment prone to natural disasters?
	[R1802B] Does (name) know how to save yourself from that natural disaster?
	[R1803] Is (name) aware of any signs or warnings to deal with a natural disaster emergency in the neighborhood (name)? (such as meeting areas, evacuation route instructions, sirens for warning of a tsunami disaster)
	[R1804] In the past year, has anyone in your household (name) attended any training / simulations on natural disaster rescue?
Social protection statement (X_5) Scale: Yes (can show card) ……..1 Yes (unable to show card)… 2 No…..5 Sources: SUSENAS 2017	[R2005] Does this household receive a social protection card (KPS) / a prosperous family card (KKS)?

Access to financial services (X_6) Scale : Number of persons Sources: SUSENAS 2017	[R2101] What is the number of adult households (15 years and over) having savings in formal financial institutions (banking, coop, etc.)?
Description of the source of household income (X_7) Scales Household members work …..1 Delivery of money / goods ..2 Investment (deposit, royalties, shares, bank interests) ……3 Pension …… 4 Sources: SUSENAS 2017	[R2301A] When receiving money / goods remittances. Where is the main source?
Number of event floods (X_8) Sources: BPS Indonesia	Starting from January 2018 to December 2019
Number of Earthquake disasters (X_9) Sources: BPS Indonesia	Starting from January 2018 to December 2019
COVID-19 death person (X_{10}) Sources: West Papua Provincial Health Office	Starting from 27 March 2020 to 10 September 2020
Number of incidents of protest (X_{11})	Collected from the media from January 2015 to December 2019

BAGAIMANA KERENTANAN DI PAPUA BARAT?

TABLE 2. **Spearman correlation hazards in west papua.**

Sample 1	Sample 2	95% CI for ρ	P-Value
COVID19_Death	SOVI	(0.208,0.945)	0.007
Flood	SOVI	(0.557,0.640)	0.00850
Earthquake	SOVI	(0.302,0.957)	0.003
Protest	SOVI	(0.359,0.780)	0.0333
Flood	COVID19_Death	(0.195,0.854)	0.0126
Earthquake	COVID19_Death	(0.238,0.837)	0.0165
Protest	COVID19_Death	(0.401,0.756)	0.00416
Earthquake	Flood	(0.445,0.728)	0.00516
Protest	Flood	(0.500,0.600)	0.0001
Protest	Earthquake	(0.439,0.732)	0.0502

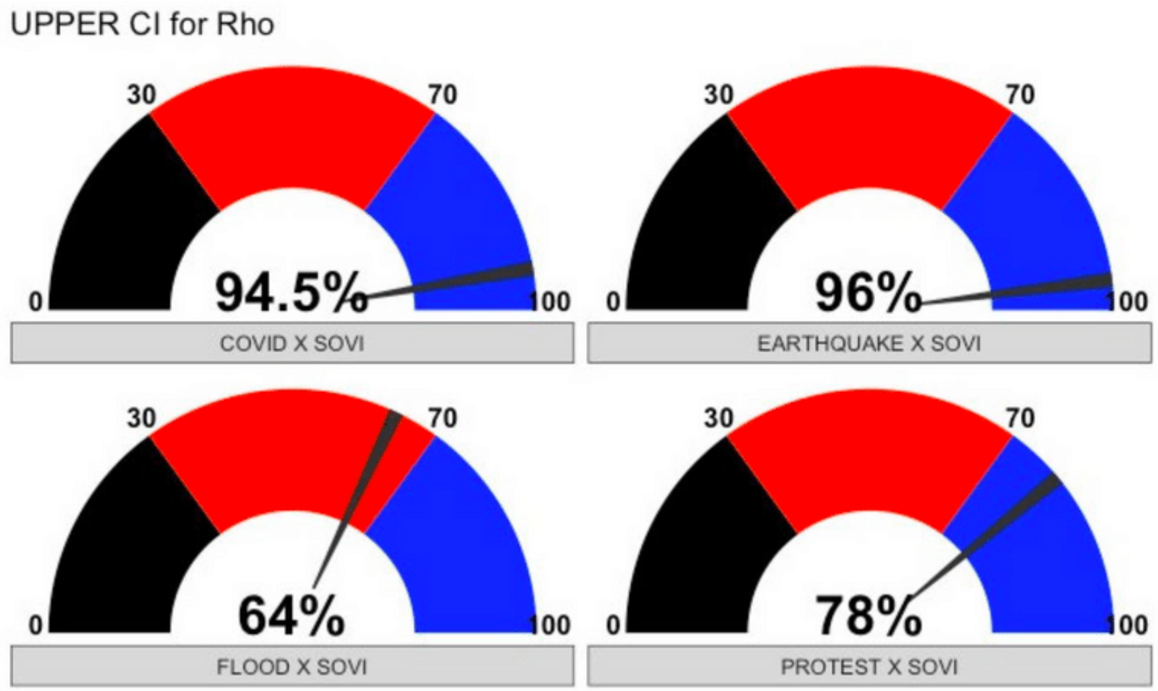

FIGURE 3. **Upper Confidence Interval ρ SoVI.**

BAGAIMANA KERENTANAN DI PAPUA BARAT?

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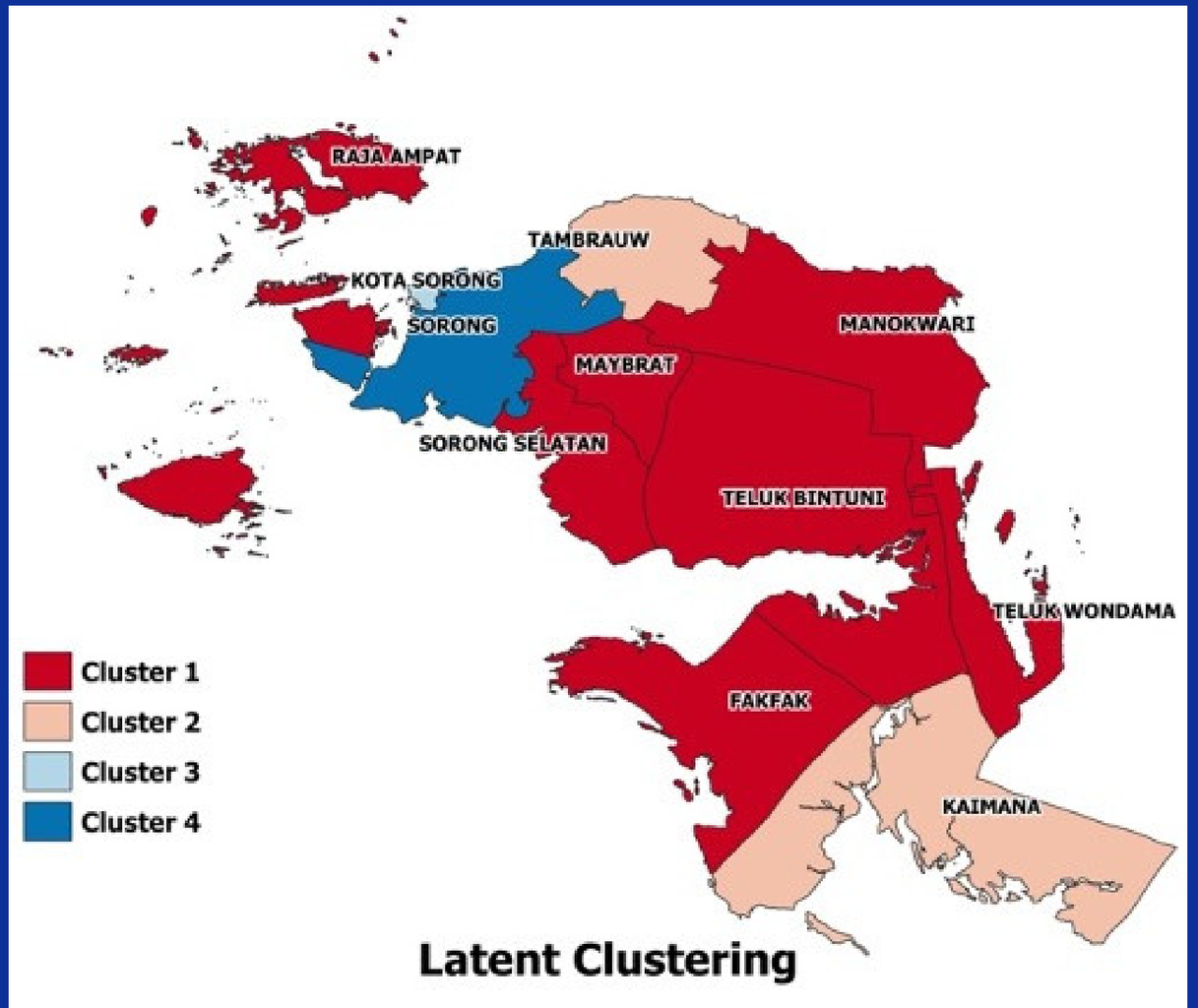

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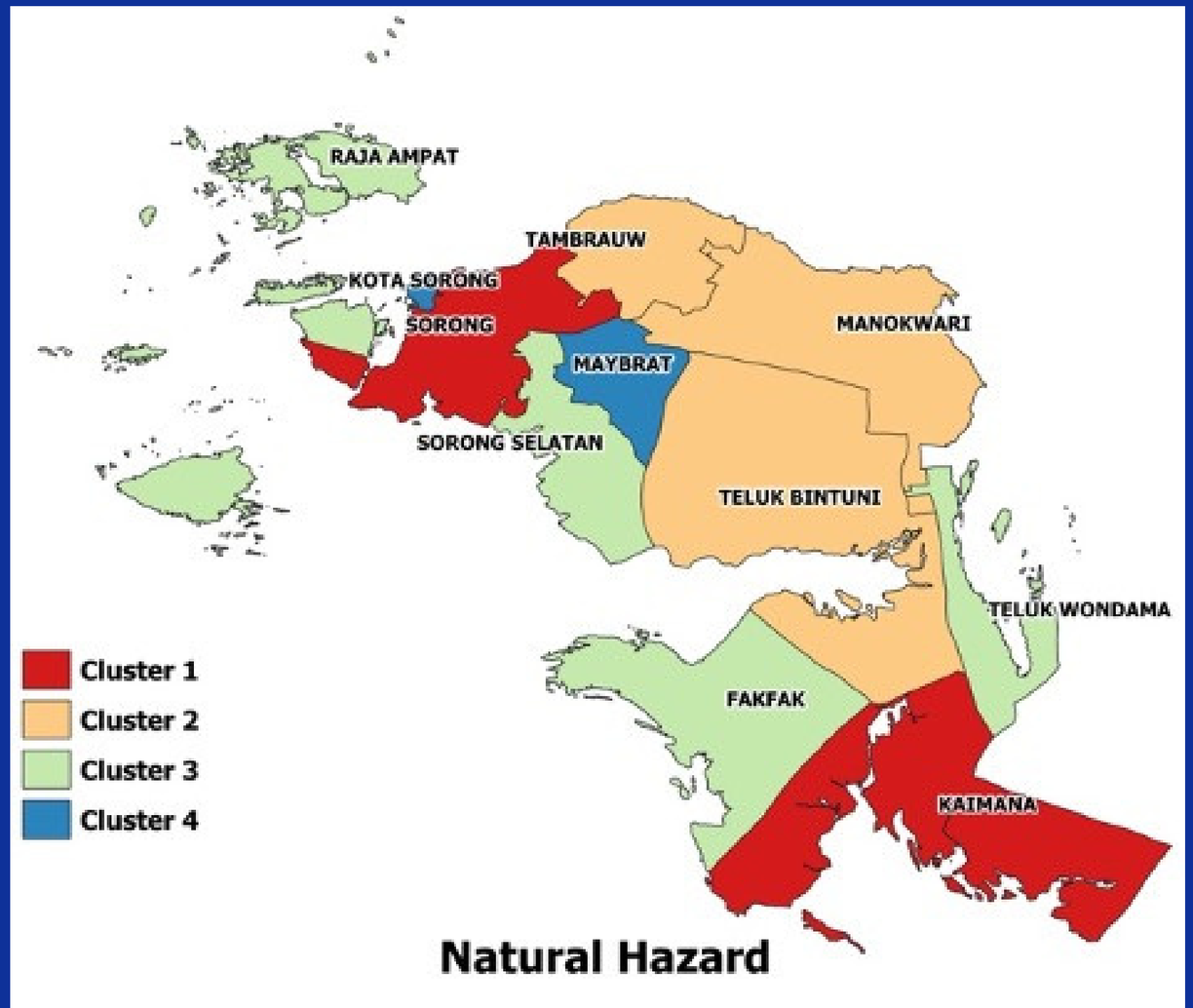
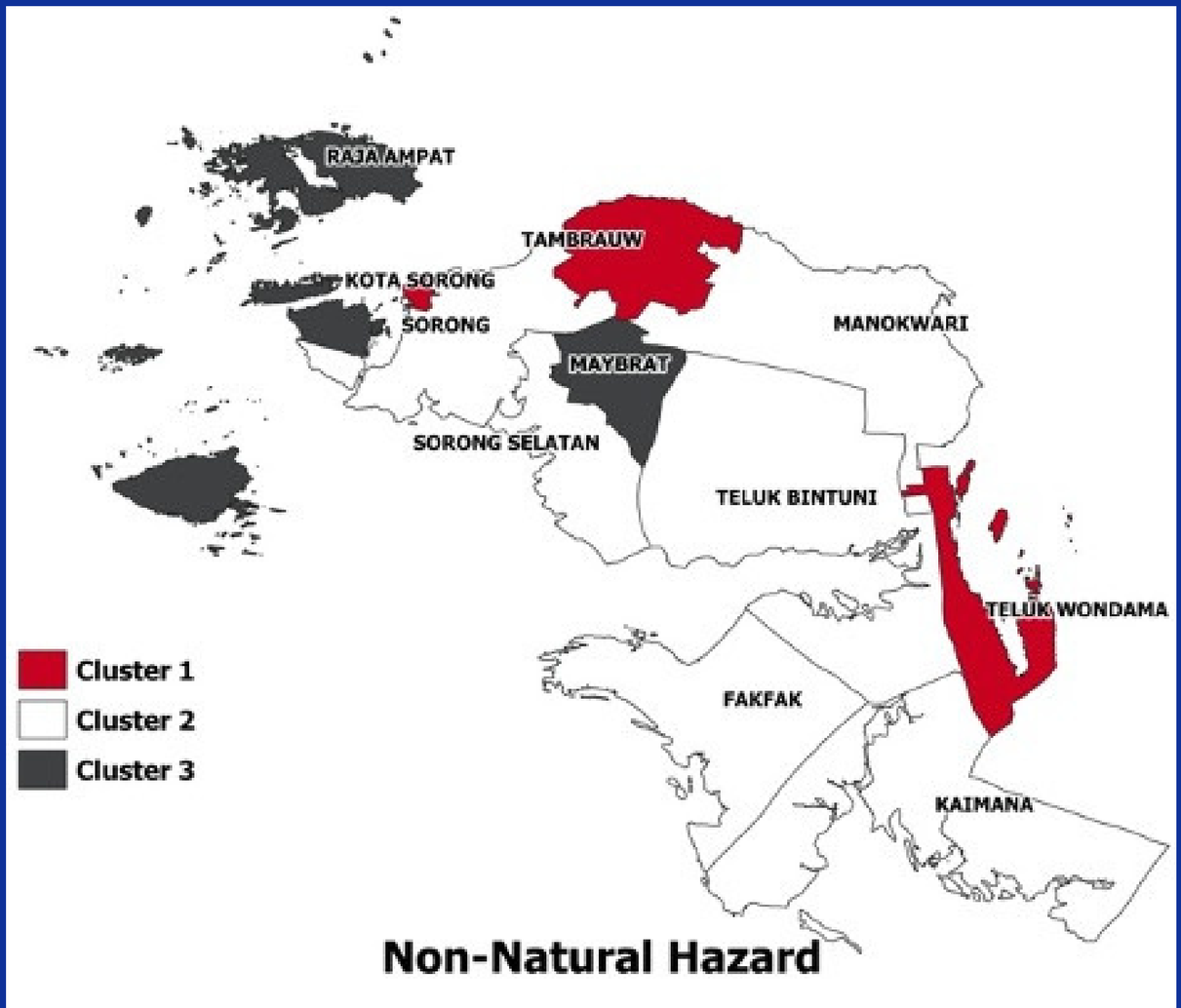
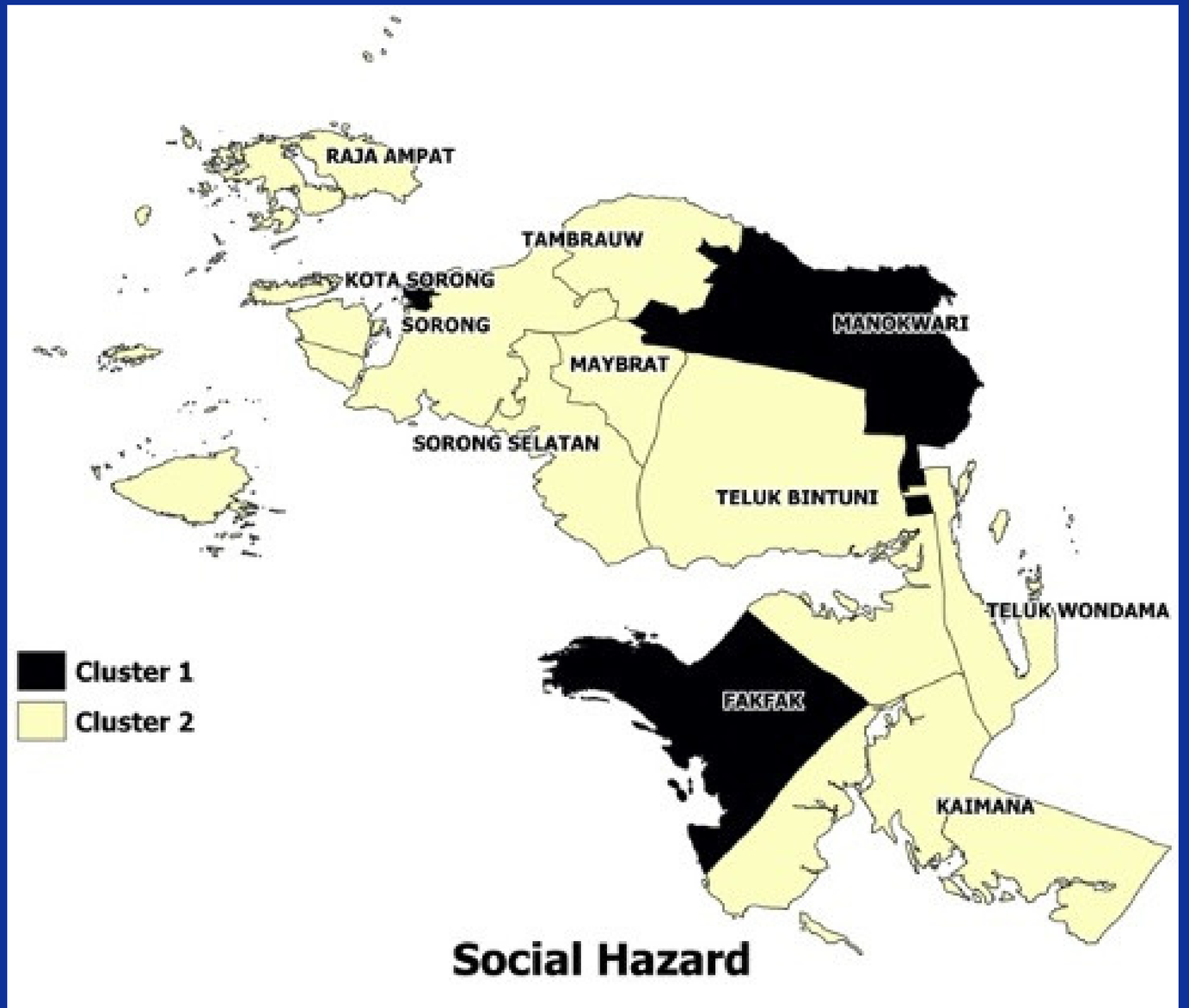


Natural Hazard



Non-Natural Hazard

BAGAIMANA KERENTANAN DI PAPUA BARAT?



TOPIK PENELITIAN COVID MASIH SANGAT LUAS

1. Analisis tentang kontektivitas hub (pelabuhan) selama pandemi.
    a. Perbedaan tren jenis barang apa saja yang banyak dikirim selama pandemi ini?

Source: Modified from Port Developments in Pelindo I (2014)

Figure 5 Strategic Action Plan for Facilitating Trade on the National Level

Analyzing the National Logistics System through Integrated and Efficient Logistics Networks: a Case Study of Container Shipping Connectivity in Indonesia
by
Siti Dwi Lazuardi

TOPIK PENELITIAN COVID MASIH SANGAT LUAS

2. Analisis Postal trade network data

Study the causal relationship between flows/networks data especially PND and the socio-economics indicators. Compare the PND and trade data with other flows/networks, e.g., migration, flights, shipping, etc. Study the behavior of the "low- level" of aggregated PND data.

Table 1. Correlation Post to Data Among ASEAN

Variable	postto	life_ expectancy	cpi	mobile_subs	Internet_ penetration	Fixed_ phone	HDI	GDP	CO2_ EMISSION
postto	1.000	.511*	.511*	.689**	.422	.600*	.644**	.600*	.600*
life_expectancy	.511*	1.000	.644**	.644**	.733**	.289	.778**	.733**	.822**
cpi	.511*	.644**	1.000	.378	.911**	.289	.867**	.911**	.733**
mobile_subs	.689**	.644**	.378	1.000	.467	.467	.511*	.467	.556*
Internet_penetration	.422	.733**	.911**	.467	1.000	.200	.778**	.822**	.644**
Fixed_phone	.600*	.289	.289	.467	.200	1.000	.422	.378	.378
HDI	.644**	.778**	.867**	.511*	.778**	.422	1.000	.956**	.867**
GDP	.600*	.733**	.911**	.467	.822**	.378	.956**	1.000	.822**
CO2_EMISSION	.600*	.822**	.733**	.556*	.644**	.378	.867**	.822**	1.000

Significant with level α=1%
Significant with level α=5%

ISNPINSA-7 IOP Publishing
IOP Conf. Series: Journal of Physics: Conf. Series **1025** (2018) 012117 doi:10.1088/1742-6596/1025/1/012117

Postal and trade network data within ASEAN countries and beyond

Rezzy Eko Caraka[1], Putu Mahardika Adi Saputra[2], Nurrohman Wijaya[3], Muhammad Mujiya Ulkhaq[4], Muhammad Subair[5]

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[2] Department of Economics, University of Brawijaya, Indonesia
[3] School of Architecture, Planning, and Policy Development, Bandung Institute of Technology, Indonesia
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Abstract. This study mainly examines the statistical analysis of Postal Network Data (PND) and Trade Data within ASEAN countries and beyond. In addition, based on the previous study on the global network structure, including postal network, as proxies for national well-being, we also assess how the PND can affect the other recent socioeconomic indicators among ASEAN countries. This study aims to address the general question of whether structural network properties of different flow networks between ASEAN countries can be used to produce proxy indicators for the socioeconomic profile of a country. Moreover, we are using statistical analysis just like the correlation to measure the variables post from and post to data with life expectancy, CPI, mobile subscriber, Internet penetration, fixed phone, HDI, GDP and CO^2 emission. After getting the correlation value. The next step we do partial least square (PLS) on the model we have built before. Just as getting 3 cluster component based on the data. Also, Matrix of the intensity connection is used to understand also compare the positions of countries within the different networks several socioeconomic indicators

1. Introduction

In the history of humanity, long-distance communications network through physical postal commodity has been established since the last century [4]. Physical postal can represent the characteristics of individual behavior, local, regional and national economic activity and international economic relation [5]. Although, presently digital commodity may disrupt and replace the network flow of physical postal commodity, however, it is still being used mainly for certain trading goods and activities. Previous work has studied flows of physical and digital commodities that affect the wealth, resilience and function of a social system on global, regional, national and sub-national levels. This study aims to address the general question of whether structural network properties of different flow networks between ASEAN countries can be used to produce proxy indicators for the socioeconomic profile of a country.

TOPIK PENELITIAN COVID MASIH SANGAT LUAS

2. Analisis Postal trade network data

Figure 3. Trade Data from World (to) ASEAN (2011-2013)

Figure 4. Trade Data (from) ASEAN to World (2011-2013)

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TOPIK PENELITIAN COVID MASIH SANGAT LUAS

2. Analisis Postal trade network data

Destination	Origin BN	ID	KH	LA	MM	MY	PH	SG	TH	VN
BN		0.0005	0.0000	0.0000	0.0000	0.0146	0.0002	0.0423	0.0009	0.0000
ID	0.1463		0.0004	0.0004	0.0002	0.0774	0.0004	0.4341	0.0129	0.0003
KH	0.0016	0.0000		0.0009	0.0000	0.0059	0.0000	0.0118	0.0026	0.0003
LA	0.0026	0.0000	0.0002		0.0000	0.0003	0.0000	0.0027	0.0039	0.0004
MM	0.0020	0.0000	0.0001	0.0001		0.0033	0.0000	0.0163	0.0025	0.0002
MY	0.4762	0.0091	0.0010	0.0008	0.0014		0.0015	1.0000	0.0198	0.0039
PH	0.0326	0.0004	0.0004	0.0007	0.0000	0.0113		0.1587	0.0065	0.0009
SG	0.2950	0.0047	0.0011	0.0014	0.0013	0.1345	0.0043		0.0344	0.0025
TH	0.0658	0.0009	0.0025	0.0091	0.0007	0.0172	0.0012	0.3347		0.0024
VN	0.0068	0.0001	0.0005	0.0026	0.0001	0.0063	0.0002	0.0298	0.0062	

Figure 9. Matrix of Intensity Connection

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TOPIK PENELITIAN COVID MASIH SANGAT LUAS

3. Analisis mengenai dampak covid19 terhadap mental health

Variables	Prevalence(95%CI)	Adjusted odds ratio(95%CI)
Overall	**48.3(46.9-49.7)**	
Gender		
Male	46.9(44.4-49.4)	1(ref)
Female	49.0(47.2-50.1)	0.99(0.87-1.12)
Age(years)		
-20	39.8(33.8-46.1)	1(ref)
21-30	49.3(47.2-51.3)	1.49(1.12-1.99)
31-40	49.8(47.0-52.5)	1.54(1.11-2.14)
41-50	45.9(42.3-49.6)	1.21(0.85-1.71)
51-	47.3(40.6-50.1)	1.17(0.78-1.75)
Education		
Middle school	51.8(45.5-58.0)	1(ref)
High School	51.0(47.5-54.6)	0.88(0.65-1.17)
College	47.7(45.9-49.5)	0.69(0.53-0.91)
Master	46.6(43.0-50.1)	0.63(0.46-0.85)
Marriage		
Married	48.1(46.1-50.0)	1(ref)
No married	48.6(46.4-50.7)	1.07(0.91-1.26)
Occupation		
Students/retired	46.2(43.3-49.1)	1(ref)
Health care workers	49.4(43.1-55.8)	0.90(0.67-1.21)
others	49.0(47.3-50.7)	0.97(0.74-1.27)
Cities		
Hubei	47.7(38.9-56.6)	1(ref)
Others	48.3(46.9-49.7)	1.06(0.75-1.52)
Area		
Urban	49.4(47.8-51.0)	1(ref)
Rural	43.4(40.2-46.7)	0.74(0.64-0.87)
Self-rate health		
Excellent	40.2(38.1-42.4)	1(ref)
Very good	52.2(50.1-54.3)	1.69(1.49-1.91)
Good/general/poor	65.1(60.8-69.2)	2.91(2.37-3.58)
Social media exposure		
Less	45.8(40.9-50.6)	1(ref)
Sometimes	47.5(42.8-52.3)	1.07(0.81-1.41)
Frequently	48.6(47.1-50.2)	1.18(0.96-1.45)

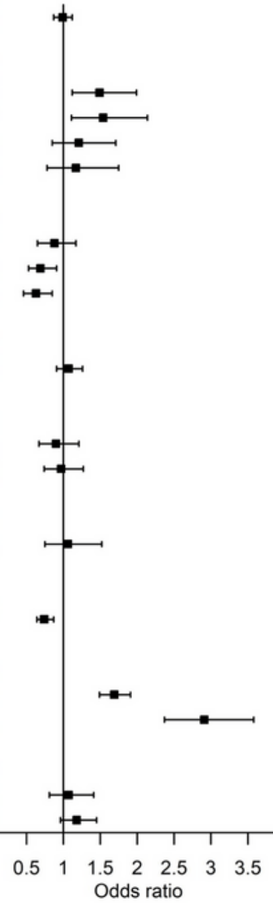

Fig 1. Prevalence of depression and relevant factors

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RESEARCH ARTICLE

Mental health problems and social media exposure during COVID-19 outbreak

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Abstract

Huge citizens expose to social media during a novel coronavirus disease (COVID-19) outbroke in Wuhan, China. We assess the prevalence of mental health problems and examine their association with social media exposure. A cross-sectional study among Chinese citizens aged≥18 years old was conducted during Jan 31 to Feb 2, 2020. Online survey was used to do rapid assessment. Total of 4872 participants from 31 provinces and autonomous regions were involved in the current study. Besides demographics and social media exposure (SME), depression was assessed by The Chinese version of WHO-Five Well-Being Index (WHO-5) and anxiety was assessed by Chinese version of generalized anxiety disorder scale (GAD-7). multivariable logistic regressions were used to identify associations between social media exposure with mental health problems after controlling for covariates. The prevalence of depression, anxiety and combination of depression and anxiety (CDA) was 48.3% (95%CI: 46.9%-49.7%), 22.6% (95%CI: 21.4%-23.8%) and 19.4% (95%CI: 18.3%-20.6%) during COVID-19 outbroke in Wuhan, China. More than 80% (95%CI:80.9%-83.1%) of participants reported frequently exposed to social media. After controlling for covariates, frequently SME was positively associated with high odds of anxiety (OR = 1.72, 95%CI: 1.31–2.26) and CDA (OR = 1.91, 95%CI: 1.52–2.41) compared with less SME. Our findings show there are high prevalence of mental health problems, which positively associated with frequently SME during the COVID-19 outbreak. These findings implicated the government need pay more attention to mental health problems, especially depression and anxiety among general population and combating with "infodemic" while combating during public health emergency.

Terima kasih

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