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**3rd International Conference
on Sustainable Research and Development**

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October 7–8, 2026**

**Grand Rohan Jogja
Daerah Istimewa Yogyakarta,
Indonesia**

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Research and Development (ICSRD-26)**

Theme: “Innovating Across Disciplines for a Sustainable, Inclusive,
and Resilient World”

**Hybrid at Grand Rohan Yogyakarta, Indonesia
October 7-8, 2026**

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Theme: “Innovating Across Disciplines for a Sustainable, Inclusive, and Resilient World”

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FOREWORD





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“To Become a Pioneer University of Development Based on the national defense spirit in the Global Era.”

Mission:

1. To produce globally competitive graduates with a spirit of State Defense through quality learning and the development of knowledge, technology, science, and humanity;
2. To improve the quality of research and community service through the strengthening of partnerships and well-planned, integrated, and sustainable programs; and
3. To develop good university governance through independent, modern, and sustainable management in the areas of human resources, finance, infrastructure, and integrated information and communication technology.

Objectives:

1. To enhance the quality of graduates who are globally competitive and uphold the spirit of State Defense through the development of quality learning under the Merdeka Belajar–Kampus Merdeka framework and the advancement of knowledge, technology, science, and humanity.
2. To improve the quality of collaboration and academic staff by increasing the quality of research and community service outcomes as well as the competence of lecturers.
3. To enhance the quality of curriculum, learning, and collaboration to strengthen institutional accreditation and achieve international accreditation for study programs.
4. To improve participatory, transparent, and accountable BLU (Public Service Agency) governance through the implementation of bureaucratic reform to realize Good University Governance.

Strategic Goals of Universitas Pembangunan Nasional Veteran Yogyakarta:

1. Improved quality of higher education graduates.
2. Enhanced quality of higher education lecturers.
3. Strengthened quality of curriculum and learning.
4. Improved governance of work units within the Directorate General of Higher Education.

Core Values:

The core values developed as the foundation and direction for the attitudes and behavior of employees and the academic community include: **Discipline, Perseverance, Creativity, Excellence, State Defense, and Honesty**. Supporting values that strengthen the institutional culture in line with those promoted by the Ministry of Education, Culture, Research, and Technology include **Integrity, Lifelong Learning, and Meritocracy**.

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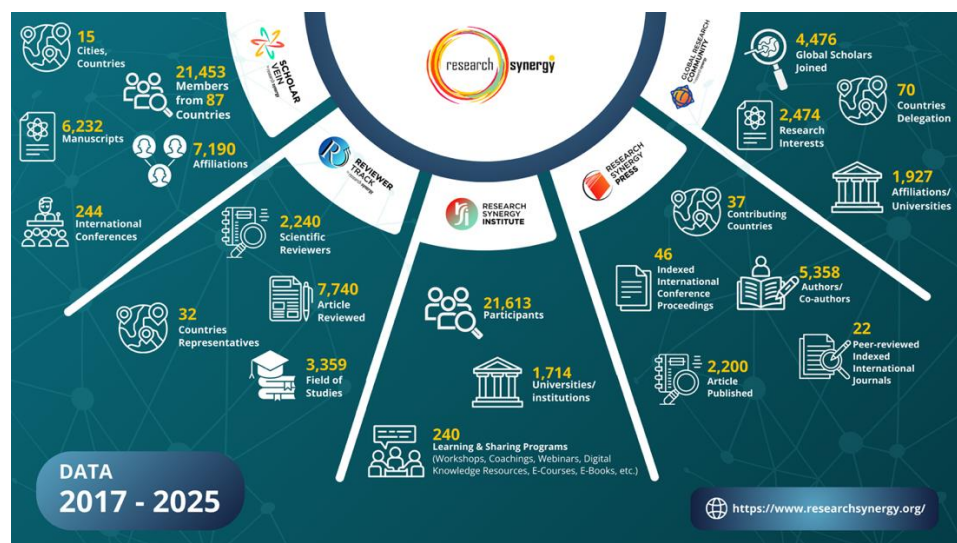
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Universitas Pembangunan Nasional Veteran Yogyakarta

Prof. Dr. M. Irhas Effendi, M.Si

Universitas Pembangunan Nasional Veteran Yogyakarta

Dr. Dyah Sugandini, M.Si

Universitas Pembangunan Nasional Veteran Yogyakarta

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Asst. Prof. Dr. Shamaila Butt – Sohar University, Oman

Dr. Foong Soon Seng – Universiti Malaya, Malaysia

Dr. Rovenia Dellova – Lyceum of the Philippines University, Philippines

Prof. Rowell Nitafan – University of Southern Mindanao, Philippines

Asst. Prof. Dr. Muhammad Ali Chohan – Department of Managerial and Financial Sciences,
Al Zahra College for Women, Muscat, Sultanate of Oman

Dr. Nurul Alam Mohd Yaakub – MYJ Tau Systems Sdn Bhd, Malaysia

Ts. Jacqueline Joseph – Universiti Teknologi MARA, Malaysia

Asst. Prof. Alex Cristobal Garibay Jr. – Mariano Marcos State University, Philippines

Ms. Camille Rafal – Instructor, Mariano Marcos State University (MMSU) MS Meteorology
Student, University of the Philippines Diliman (UPD), Philippines

Paul B. Doronila, Ph.D. – Central Philippines State University, Ilog Campus, Philippines

Asst. Prof. Dr. Amarjit Kene – Dr. D. Y. Patil Institute of Technology Pune, India

Asst. Prof. Ankita Singh – MNNIT Allahabad, India

CONFERENCE CHAIR MESSAGE

Distinguished Participants and Guest,
Excellencies, Ladies, and Gentlemen

Good morning, esteemed keynote speakers, respected presenters, valued participants, and dear members of our global academic community. It is with great pleasure and sincere appreciation that I welcome you all to the 3rd International Conference on Sustainable Research and Development (ICSRD-26) jointly organized by Universitas Pembangunan Nasional "Veteran" Yogyakarta and Research Synergy Foundation.

This year's conference embraces the inspiring theme: "Innovating Across Disciplines for a Sustainable, Inclusive, and Resilient World." This theme captures our shared vision to build sustainable futures through interdisciplinary collaboration and integrated innovation uniting researchers, educators, and practitioners to address pressing global challenges in energy, environment, and national resilience.

We are deeply honored to host our distinguished keynote speakers:

- Prof. Dr. Muhammad Irhas Effendy, M.Si – Universitas Pembangunan Nasional "Veteran" Yogyakarta, Indonesia
- Prof. Muhammad Nadjib, STP., M.M. – Ministry of Higher Education, Science, and Technology of the Republic of Indonesia
- Assoc. Dr. Jau-Rong (Kelly) Chen – Ming Chi University of Technology, Taiwan
- Assoc. Prof. Dr. Hendrati Dwi Mulyaningsih – Research Synergy Foundation, and Advisory Gateway F1000Research, Taylor & Francis
- Prof. Dr. Cham Tat Huei – Swinburne University of Technology, Malaysia
- Prof. Dr. Abdelaziz Bouras – Qatar University, Qatar
- Prof. Dr. Nazimah Sheikh Abdul Hamid – Auckland University of Technology, New Zealand

Your participation as keynote speakers, paper presenters, discussants, or virtual attendees symbolizes the true essence of global collaboration. Through this virtual conference, we aspire to foster critical dialogue, spark innovative ideas, and strengthen cross-disciplinary research networks that contribute to global sustainability and societal advancement. Let us take this opportunity to learn from one another, exchange insights, and build meaningful partnerships that continue beyond this conference.

On behalf of the organizing committee, I express my deepest gratitude to all partners, speakers, and participants for their unwavering support and contribution to the success of ICSR-26.

May this conference be an engaging, enlightening, and inspiring experience for all. I wish you great success in your presentations and collaborations.

Best regards,

Assoc. Prof. Dr. Sri Dwi Ari Ambarwati, S.E., M.Si
Conference Chair of ICSR-26

CONFERENCE CHAIR



Assoc. Prof. Dr. Sri Dwi Ari Ambarwati, S.E., M.Si.

Head of the Research Center, Institute for Research and Community Service Universitas Pembangunan Nasional Veteran Yogyakarta

Assoc. Prof. Dr. Sri Dwi Ari Ambarwati, S.E., M.Si is a lecturer at the Management Study Program, Faculty of Economics and Business, Universitas Pembangunan Nasional Veteran Yogyakarta. She earned her Bachelor's degree in Management from Universitas Pembangunan Nasional Veteran Yogyakarta and her Master of Science in Management from Gadjah Mada University (UGM). In 2021, she obtained her Doctoral degree from Sebelas Maret University with a concentration in Finance. Dr. Ambar previously served as the Coordinator of the Capital Market Laboratory from 2010 to 2015 and is currently the Head of the Research Center at the Institute for Research and Community Service (LPPM), Universitas Pembangunan Nasional Veteran Yogyakarta for the 2024–2028 period. She is actively recognized as a researcher, author, BKD assessor, Internal Quality Audit (AMI) assessor, speaker in various community empowerment programs, and reviewer for national journals. To date, Dr. Ambar has published around 70 articles in both international and national journals.

CO-CONFERENCE CHAIR



Assoc. Prof. Dr. Hendrati Dwi Mulyaningsih
Founder & CEO of Research Synergy Foundation

Associate Professor. Dr. Hendrati Dwi Mulyaningsih is the chairperson and founder of Research Synergy Foundation that has shown great commitment on creating Global Network and Research Ecosystem. This GNR ecosystem has been developing since 2017 up to the present and having increasing numbers of the member up to more than 45.000 from all around the globe. Her passion in how to create impact and co creation value among all the stake holder of RSF has made her focus on upholding integrity in the scientific process through enhancement of RSF's support- support system as like Reviewer track, Scholarvein, Research Synergy Institute and Research Synergy Press. Thus, her work in this area has made her as the Nominee of Impactful Leadership Awards from Tallberg Foundation Sweden 2019 and 2024.

As lecturer, she has been working in the University since 2008 – at present in Indonesia as Associate Professor and she hold her Doctoral Science of Management graduated from School of Business and Management Institute of Technology Bandung (SBM-ITB) and she has strong interest to her research project as well as her research field in Social Entrepreneurship, Social Innovation and Knowledge Management.

As researcher, her work studies and research on this research field made her be invited as reviewer in many reputable Scopus and WOS indexed journals and as keynote speaker in many International Conferences in Philippines, Thailand, Malaysia, Indonesia, Australia, Japan, and US. She also has shown her great passion on writing her research study into some books chapter, papers and contemporary scientific articles that has already been published in Springer, Emerald, Taylor and Francis and in many reputable international publishers. The terrific association between her professional experiences as researcher, lecturer, the certified Trainer & Coach combined with her wider horizon on networking in the research area made her establish the strong commitment on having global learning platform to accelerate knowledge through many workshops and research coaching in Research Synergy Institute as one of RSF's support system.

OPENING SPEECH



Prof. Dr. Dyah Sugandini, S.E., M.Si.

**Chief of Institute for Research and Community Service
Universitas Pembangunan Nasional Veteran Yogyakarta**

Dyah Sugandini is a Professor in the field of marketing management. Graduated with a bachelor's degree in management at Universitas Pembangunan Nasional Veteran Yogyakarta, a master's degree in management at UGM, and obtained a doctorate at Gadjah Mada University Yogyakarta in 2013 with a concentration in marketing. She has been a lecturer at Universitas Pembangunan Nasional Veteran Yogyakarta since 1995. Her areas of expertise are consumer behavior and marketing management. Has experience as a reviewer in several international journals. Has 38 Scopus-indexed papers, with an h-index of 11. Various international scientific meetings have been held, including in Malaysia, Hong Kong, Japan, Switzerland, Korea, England, etc. Active in several scientific research activities and community service. Become an expert on several research projects. She was the chairman of the LPPM at Universitas Pembangunan Nasional Veteran Yogyakarta from 2024 until now.

CLOSING SPEECH



Asst. Prof. Dr. Ir. Avido Yuliestyan, S.T., M.Sc., IPM

Secretary of the Institute for Research and Community Service (LPPM) Universitas Pembangunan Nasional Veteran Yogyakarta, Indonesia

Dr. Avido Yuliestyan, S.T., M.Sc. is an Indonesian academic, chemical engineering researcher, and lecturer at Universitas Pembangunan Nasional "Veteran" Yogyakarta (UPNYK). He completed his Bachelor of Chemical Engineering at Universitas Gadjah Mada (UGM) before pursuing an extensive international academic path. He earned multiple master's credentials through a joint European program in engineering rheology across KU Leuven, the University of Minho, and the Universidad de Huelva in Spain, where he ultimately obtained his Ph.D.

Before transitioning fully into academia, Dr. Avido gained valuable industry experience in the energy sector, serving as a Process Engineer at Synergy Engineering and a Field Engineer for Pertamina Hulu Energi ONWJ. Today, His current research focuses on rheology, complex fluids, and sustainable food and bioprocess technologies, with particular emphasis on the valorization of biomass and agricultural residues into value-added materials. His work explores how these renewable resources can be transformed into functional ingredients and materials with tailored rheological properties, including food thickeners, emulsifiers enhanced oil recovery, and other products designed to modify and control flow behavior.

KEYNOTE SPEAKERS



Prof. Dr. Muhammad Irhas Effendi, M.Si.

Universitas Pembangunan Nasional “Veteran” Yogyakarta, Indonesia

Prof. Dr. Mohamad Irhas Effendi is the Rector of Universitas Pembangunan Nasional “Veteran” Yogyakarta and a distinguished scholar in strategic management, where he earned his Doctorate with honors (Cum Laude). Throughout his career, he has held several key academic and administrative positions, including Head of the Management Department, Vice Rector for Academic Affairs, and Head of the Institution for Research and Community Services. He also lectures in postgraduate programs at Universitas Pembangunan Nasional Veteran Yogyakarta and Universitas Islam Indonesia. Beyond academia, he contributes as a National Research Reviewer for the Ministry of Education, Culture, Research, and Technology, and serves as a member of ISEI and an Expert Council member of ICMI. Prof. Effendi has written over 200 scholarly articles and several management books. His dedication has been recognized through numerous awards, including Presidential Loyalty Awards for 20 and 30 years of service, the LVRI Star, and the WIMAYA Star.



Prof. Muhammad Nadjib, STP., M.M.

Ministry of Higher Education, Science,
and Technology of the Republic of Indonesia

Prof. Muhammad Nadjib, STP., M.M. is Director of Institutional Affairs, Directorate General of Higher Education, at the Ministry of Higher Education, Science, and Technology of the Republic of Indonesia. He is also an experienced Lecturer with a demonstrated history of working in the higher education industry. Skilled in Lecturing, Curriculum Development, Public Speaking, E-Learning, and Science. Strong education professional with a Doctor of Philosophy (PhD) focused in Agricultural and Resources Economics from The University of Tokyo. Field of research : Organic Food Marketing, Small and Medium Enterprises Marketing & Strategy, Food cluster development strategy

KEYNOTE SPEAKERS



Assoc. Prof. Dr. Jau-Rong (Kelly) Chen

Ming Chi University of Technology, Taiwan

Dr. Jau-Rong Chen (Kelly), Ph.D., is an Associate Professor in the Department of Business and Management and Director of the International MBA Program at Ming Chi University of Technology, Taiwan. She earned her Ph.D. and M.A. in Training and Human Resource Development from the University of Warwick, UK, and has been serving at Ming Chi University of Technology since 2006. Her expertise encompasses Strategic Human Resource Management, Training and Human Resource Development, organizational transformation and IT enablement, social innovation and entrepreneurship, University Social Responsibility (USR), executive education, talent development, and industry-academia collaboration. She currently leads multi-year USR projects funded by Taiwan's Ministry of Education and is actively involved in executive education, corporate leadership development, and industry-academia initiatives. Dr. Chen has published research in areas including digital transformation, organizational development, strategic HRM, business management, and social innovation, with publications appearing in journals indexed by SSCI, ESCI, TCI-HSS, and TSSCI.



Prof. Dr. Cham Tat Huei

Swinburne University of Technology, Malaysia

Professor Dr Cham Tat Huei is a Professor of Marketing and an accredited PhD Supervisor at Swinburne University of Technology (Sarawak Campus). He is recognised among the World's Top 2% Scientists based on the Stanford University–Elsevier rankings and has held Adjunct and Visiting Professor positions at various institutions worldwide. His research interests include marketing, consumer behaviour, business management, tourism and hospitality, service marketing, technology management, and organisational behaviour. He has published more than 90 research papers in Web of Science and/or Scopus-indexed journals and currently serves as Editor-in-Chief of two international academic journals, in addition to serving on several editorial review boards. He is also recognised among the top three most-cited researchers in medical tourism according to Google Scholar and has received various international research and academic distinctions. Professor Cham is a member of the Young Scientists Network–Academy of Sciences Malaysia (YSN-ASM), a National Outstanding Young Educator Award recipient, and an Auditor for the Malaysian Research Assessment (MyRA). He also contributes to academia through postgraduate supervision, consultancy, industry collaboration, and international academic assessment.

KEYNOTE SPEAKERS



Prof. Dr. Abdelaziz Bouras

Qatar University, Qatar

Prof. A. Bouras is Professor of Computer Science at the College of Engineering of Qatar University and was a Director/Manager at the Research Support Office of the university. Awarded an Honoris Causa PhD by HRH Princess Maha Chakri Sirindhorn of Thailand in 2011, he brings extensive international experience, having held key leadership and incubation roles at IctQatar (Digital Incubation) and at University of Lyon (Innovation and Tech Transfer). As the Chair of the IFIP Working Group 5.1, he has coordinated numerous cross-border projects and startup incubators across Europe and the Middle East. His current research focuses on Software Lifecycle Management, Information Systems, Information Security, and Blockchain for Supply Chains.



Prof. Dr. Nazimah Sheikh Abdul Hamid

Auckland University of Technology, New Zealand

Prof. Dr. Nazimah Sheikh Abdul Hamid is a Professor of Food Science at Auckland University of Technology (AUT), New Zealand, with nearly 30 years of research experience in Food Science. She previously served as Head of Discipline for Food Science and Microbiology at AUT from 2013 to 2017 before being appointed Professor of Food Science in 2017. Her research expertise spans food processing, sensory science, flavour chemistry, instrumental flavour analysis, and consumer perception, particularly examining the relationships between food composition, sensory perception, and flavour in processed and minimally processed foods. She also researches the influence of auditory cues on flavour and consumer perception. Prof. Hamid has published extensively in reputable scientific journals and is actively involved in postgraduate supervision, collaborative research, industry projects, and international academic activities. She holds a PhD and MSc from the University of Strathclyde and a BSc (Hons) from the University of Nottingham, United Kingdom.

MASTER OF CEREMONY



Santi Rahmawati, S.T., M.S.M.

**Founder & Chief of Operating Officer
Research Synergy Foundation**

Santi is a Founder and Chief of Operating Officer (COO) of the Research Synergy Foundation (RSF). She actively engaged with scholars around the world for strengthening the Global Research Ecosystem. As a former Director of Scholarvein, she creates, maintains, and develops the integrated system for managing international scientific conference and forum since 2017 up to 2025 and already give benefit to more than 16.457 participants coming from >87 countries. With the combination of engineering and management science educational background, she has built the optimum workflow for scholars to contribute more to the society and humanities. Santi holds her bachelor's degree of industrial engineering from Universitas Indonesia (UI). Furthermore, she had received her Master of Science Management (focusing on Entrepreneurship and Technology Management) from Institut Teknologi Bandung (ITB) in 2015. Santi has appointed as a Gateway Advisor in F1000Research (Scopus Q1). She has already been an editor of three published books (both published by Routledge, Taylor & Francis), a reviewer in many reputable international journals, an author and co-authored multiple international research articles and book chapters.

SESSION CHAIRS



Dr. Kok Shiong Pong

Beijing Normal-Hong Kong Baptist University

Kok Shiong PONG holds a Bachelor of Communication in Persuasive Communication and a Master of Arts in Communication from Universiti Sains Malaysia, and a PhD from Universiti Putra Malaysia. He is an Assistant Professor at Beijing Normal Hong Kong Baptist University (BNBU), where he teaches and supervises students at undergraduate and postgraduate levels.

Prior to joining BNBU, he spent more than a decade in academia at a leading Malaysian institution, serving as Tutor, Lecturer, Assistant Professor, Head of Department (2015–2017), and Head of Programme for the Master of Strategic Communication, which he co-developed. His teaching expertise encompasses public relations, crisis communication, campaign planning, strategic communication, advertising, branding, and research methods. He has been invited as a guest lecturer and speaker at universities across New Zealand, South Korea, Indonesia, Thailand, and the Philippines, and served as Keynote Speaker at the 2025 Creative and Collaborative Communication Conference. His primary research area is marketing communication, and he has published in peer-reviewed journals while actively contributing as a reviewer, editorial board member, managing editor, and conference chair for various international academic platforms. Committed to the United Nations Sustainable Development Goals, particularly SDG 4, SDG 12, and SDG 17, he integrates sustainability, responsible practice, and meaningful collaboration into his teaching, research, and professional engagement.



Dr. Rovenia Dellova

Lyceum of the Philippines University. Philippines

Dr. Rovenia Dellova is a licensed teaching professional who is eager to provide education based on real-life examples and innovative learning styles. She is a graduate of Bachelor in Business Education, Masters in Business Education and Doctor in Education Management from Polytechnic University of the Philippines. She has served various food and restaurants industry where she manages to be able to multitask, build rapport with staff and customers. She also was able to serve hotel schools as part of the management team where she developed courses designed to run various trainings. She also joined the academe in various schools and universities in undergrad and Graduate School where she wholeheartedly shares her passion in teaching specializing on Tourism and Hospitality, Education, Management, and Research. Currently, she has been serving as a lecturer since 2007 at Lyceum of the Philippines University at the College of International Tourism and Hospitality Management and has strong interest to accomplish her research studies in Tourism and Hospitality, Business Education and Management.

SESSION CHAIRS



Dr. Foong Soon Seng
Universiti Malaya, Malaysia

Dr. Foong Soon Seng is currently a Senior Lecturer in the Department of English, Faculty of Arts and Social Sciences, University of Malaya. His research interests include Feminist Writings (Women's Studies), Colonial & Post-Colonial Literature, and Malaysian Literature in English.



Prof. Rowell Nitafan
University of Southern Mindanao, Philippines

Rowell P. Nitafan is an instructor and researcher affiliated with the University of Southern Mindanao, Philippines. His multidisciplinary research interests primarily encompass organizational behavior and dynamics, local governance, and socio-cultural studies. Throughout his academic career, he has published various literature reviews and empirical studies, most notably on the phenomenon of employee silence in the workplace and the comparative analysis of the quality of work life among uniformed personnel in the Philippines. Furthermore, his scholarly works extend to socio-political aspects, such as exploring the influence of local chief executives' wives in local politics, as well as indigenous narratives concerning conflict resolution among the Obo Manobo tribe in Mindanao. Through these research endeavors, he actively contributes to the advancement of literature in human resource management, public administration, and social sciences within the region.



Paul B. Doronila, Ph.D.
Central Philippines State University, Ilog Campus, Philippines

Dr. Paul B. Doronila is a dedicated academic and researcher affiliated with the Ilog Campus of Central Philippines State University (CPSU), a prominent higher education institution in the Philippines. Holding a doctoral degree, his professional and academic endeavors are centered on fostering academic excellence, advancing higher education, and contributing to rigorous scholarly inquiry. Through his role as a faculty member and scholar at CPSU, he plays a significant part in driving the university's mission to provide quality, community-relevant education and impactful research. His ongoing commitment to the academe continues to enrich the educational landscape and empower the scientific and local communities within the region.

SESSION CHAIRS



Ts. Jacqueline Joseph

Universiti Teknologi MARA, Malaysia

Ts. Jacqueline Joseph is a lecturer at the Faculty of Plantation and Agrotechnology, with field of expertise is in Agronomy and a researcher with the Special Interest Group (SiG TaNI – Pertanian Nikel) at Universiti Teknologi MARA (UiTM), Sabah Branch, Kota Kinabalu Campus, focuses on sustainable agriculture and metal farming (agromining) using hyperaccumulator plant species for nickel recovery and green innovation. She is currently pursuing a PhD in Forestry Science at Universiti Malaysia Sabah, specialising in wood density assessment and aboveground biomass estimation. Ts. Jacqueline is actively involved in innovation in research and teaching & learning, and has received numerous accolades at national and international levels, including the Pensyarah Harapan 2023 award by the Kesatuan Kakitangan Akademik Universiti Teknologi MARA (MITASA).



Dr. Shamaila Butt

Sohar University, Oman

Dr. Shamaila Butt is an Assistant Professor in the Faculty of Business at Sohar University, Oman. She holds a PhD in Finance from Universiti Teknologi Malaysia and has completed postdoctoral fellowships in Malaysia and China. Her expertise lies in financial economics, with research interests spanning exchange rate forecasting, financial technology, climate change, and environmental sustainability. Her research combines econometric methods and machine learning to examine financial and environmental challenges. She has published in international journals, including the Journal of Cleaner Production, Financial Innovation, and Gondwana Research. She serves as Principal Investigator on research projects supported by Oman's Ministry of Higher Education, Research and Innovation and Sohar University. She also contributes as a team member to a strategic grant project and other research projects, strengthening her engagement in collaborative research and sustainable development. Her international academic experience includes teaching, research supervision, academic leadership, and service as a conference session chair.



Dr. Nurul Alam Mohd Yaakub

MYJ Tau Systems Sdn Bhd, Malaysia

Nurul Alam Mohd Yaakub is a professional and researcher affiliated with MYJ Tau Systems Sdn Bhd, Malaysia. Representing the corporate and applied technology sector, her involvement in the academic sphere bridges the critical gap between theoretical research and real-world industry implementation. Through his affiliation with MYJ Tau Systems, he brings valuable industry-driven perspectives, practical insights, and professional expertise to academic discourse. His contributions highlight the vital role of industry-academia collaboration in advancing applied research, fostering innovation, and addressing contemporary organizational and technological challenges.

SESSION CHAIRS



Asst. Prof. Alex Cristobal Garibay Jr.

Mariano Marcos State University, Philippines

Alex C. Garibay Jr. is an Assistant Professor and the former Chairperson of the Department of Physical Sciences at Mariano Marcos State University (MMSU). With over a decade of dedicated service, he teaches physics and meteorology, contributing significantly to the institution's academic and research growth. His research interests lie at the intersection of environmental science, atmospheric physics, and climate resilience, notably leading local initiatives like the Climate and Health Impact Monitoring and Evaluation (CHIME) project.

Prof. Garibay holds a BS in Physics from the University of Northern Philippines and an MS in Meteorology from the University of the Philippines Diliman. Furthering his commitment to the scientific community, he is currently pursuing his PhD in Meteorology at UP Diliman. As an educator, researcher, and academic leader, he remains deeply committed to advancing atmospheric sciences and mentoring the next generation of meteorologists in Northern Luzon.



Ms. Camille Rafal

Instructor, Mariano Marcos State University (MMSU) MS Meteorology Student, University of the Philippines Diliman (UPD), Philippines

Ms. Camille Rafal is a dedicated academic and researcher currently serving as an Instructor at Mariano Marcos State University (MMSU) while simultaneously advancing her scientific expertise as a Master of Science in Meteorology student at the University of the Philippines Diliman (UPD). In her capacity as a faculty member at MMSU, she is actively involved in delivering quality higher education and fostering academic excellence. Concurrently, her postgraduate pursuit in meteorology at the country's premier national university highlights her strong commitment to the critical field of atmospheric and weather sciences. Through her dual role as a higher education instructor and a graduate researcher, Ms. Rafal effectively bridges pedagogical practice with advanced scientific inquiry, contributing to the academic and research landscape in the Philippines.



Asst. Prof. Dr. Muhammad Ali Chohan

**Department of Managerial and Financial Sciences,
Al Zahra College for Women, Muscat, Sultanate of Oman**

Dr. Muhammad Ali Chohan is an academic and researcher affiliated with Universiti Teknologi Malaysia (UTM), one of Malaysia's premier research-intensive institutions. Through his role at UTM, he contributes to a dynamic academic environment dedicated to advancing higher education and rigorous scholarly inquiry. His professional endeavors align with the university's core mission of fostering innovation, research excellence, and impactful academic discourse within the broader scientific community in Southeast Asia.

SESSION CHAIRS



Asst. Prof. Dr. Amarjit Kene

Dr. D. Y. Patil Institute of Technology Pune, India

Dr. Amarjit Prakashrao Kene, with a Ph.D. in Mechanical Engineering from IIT Kanpur, is a distinguished academic and researcher with extensive expertise spanning both theoretical and practical aspects of engineering. He is the Dean of Research & Development and an Associate Professor in the Mechanical Engineering Department at SVERI's College of Engineering, Pandharpur. In his leadership role, Dr. Kene is instrumental in driving research initiatives, fostering innovation, and mentoring future engineers to become industry-ready professionals.

During his career, Dr. Kene has worked on diverse projects that blend cutting-edge technology with practical applications. His early work during his master's focused on optimizing the build orientation of 3D-printed products, where he developed 21 unique codes to simplify the process of slicing and tool path generation—advancing the efficiency and precision of additive manufacturing. In his Ph.D., Dr. Kene made significant contributions to sensor fusion in conventional machining processes, improving reliability and predictive accuracy. He developed an analytical model integrating sensor data from various inputs to predict tool wear and other machining parameters. His approach proved more accurate than traditional methods like regression and neural networks, setting new standards for precision in machining. Beyond his technical work, Dr. Kene actively collaborates with industry partners, contributes to academic conferences, and has published in leading journals. His commitment to bridging the gap between academia and industry continues to inspire innovation, while his leadership within the institution promotes a culture of research excellence and continuous learning.



Asst. Prof. Ankita Singh

MNNIT Allahabad, India

Asst. Prof. Ankita Singh is a dedicated academic and researcher affiliated with the Motilal Nehru National Institute of Technology (MNNIT) Allahabad, recognized as one of India's premier Institutes of National Importance. In her capacity as an Assistant Professor, she is actively engaged in advancing higher education and fostering research excellence within the engineering and academic domains. Her role involves contributing to rigorous scholarly inquiry, guiding student research initiatives, and participating in academic discourse that aligns with MNNIT's core mission of technological innovation and academic rigor. Through her continuous dedication to higher education, she plays a vital role in shaping future professionals and enriching the scientific community in India and beyond.

CONFERENCE PROGRAM

Wednesday | October 7, 2026

https://icsrd-upnyk.com/				Organized by :			
CONFERENCE PROGRAM							
3rd International Conference on Sustainable Research and Development (ICSRD-26)							
On-Site at Grand Rohan Yogyakarta, Indonesia							
7 October 2026							
Wednesday, 7 October 2026							
Jakarta Time (UTC+7)		Dur'	Activity				
Main Room: *Please note that ALL conference TIME is in Jakarta Time/ WIB/ UTC+7. Please check your time zone.		Join Zoom Meeting: https://us06web.zoom.us/j/81997285450?pwd=ogpDxPeaqsAmFj3uwy6sMLr6IQZA.1 OR https://bit.ly/ICSRD26-Zoom Meeting ID: 819 9728 5450 Passcode: ICSRD-26					
8:30	-	9:00	0:30	Welcome reception and registration (On-site participants) Participant Login and Join Zoom (Virtual participants)			
9:00	-	9:15	0:15	Welcoming and Conference Agenda announcement by MC			
9:15	-	9:25	0:10	Listening the national anthem "Indonesia Raya" and Mars "Bela Negara"			
9:25	-	9:40	0:15	Welcome Remarks of ICSRD-26 Dr. Sri Dwi Ari Ambarwati, S.E., M.Si. Conference Chair of ICSRD-26 Head of the Research Center of the Institute for Research and Community Service, Universitas Pembangunan Nasional Veteran Yogyakarta, Indonesia			
9:40	-	9:55	0:15	Opening Speech of ICSRD-26 Prof. Dr. Dyah Sugandini, S.E. M.Si. Chief of the Institute for Research and Community Service Universitas Pembangunan Nasional Veteran Yogyakarta, Indonesia			
9:55	-	10:10	0:15	Group Photo & Coffee Break			
10:10	-	10:40	0:30	Keynote Speaker : Prof. Dr. Mohamad Irhas Effendi, M.Si. Rector, Universitas Pembangunan Nasional Veteran Yogyakarta, Indonesia			
10:40	-	10:45	0:05	Token of Appreciation for Keynote Speaker			
10:45	-	11:15	0:30	Keynote Speaker : Prof. Muhammad Nadjib, STP., M.M. Director of Institutional Affairs, Directorate General of Higher Education, Ministry of Higher Education, Science, and Technology of the Republic of Indonesia			
11:15	-	11:20	0:05	Token of Appreciation for Keynote Speaker			
11:20	-	11:50	0:30	Keynote Speaker : Assoc. Prof. Dr. Hendrati Dwi Mulyaningsih Co-Conference Chair of ICSRD-26 Founder & Chief Executive Officer of Research Synergy Foundation			
11:50	-	11:55	0:05	Token of Appreciation for Keynote Speaker			
11:55	-	12:25	0:30	Keynote Speaker : Dr. Jau-Rong (Kelly) Chen Ming Chi University, Taiwan			
12:25	-	12:30	0:05	Token of Appreciation for Keynote Speaker			
12:30	-	12:50	0:20	Mini Workshop: Radwa El-Khatib Customer Success Strategist & AI Research Solutions Expert, Enago "Utilizing Trinka AI for the Research Desk" Workshop by Enago			
12:50	-	12:55	0:05	Announcement for 2nd day of ICSRD-26			
12:55	-	13:05	0:10	Closing Speech of ICSRD-26 Dr. Ir. Avido Yuliestyan, S.T., M.Sc., IPM Secretary of the Institute for Research and Community Service (LPPM) Universitas Pembangunan Nasional Veteran Yogyakarta, Indonesia			
13:05	-	13:50	0:45	Lunch and networking session			
Supported by :							
       							

CONFERENCE PROGRAM

Wednesday | October 8, 2026

<https://icsrd-upnyk.com/>

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CONFERENCE PROGRAM

3rd International Conference on Sustainable Research and Development (ICSRD-26)

VIRTUAL CONFERENCE: 8 October 2026

Thursday, 8 October 2026

Jakarta Time (UTC+7)	Dur'	Activity		
Main Room: *Please note that ALL conference TIME is in Jakarta Time/ WIB/ UTC+7. Please check your time zone.		Join Zoom Meeting: https://us06web.zoom.us/j/81997285450?pwd=opgDxPeaqsIAmFj3uwy6sMLR6lQZA.1 OR https://bit.ly/ICSRD26-Zoom Meeting ID: 819 9728 5450 Passcode: ICSRD-26		
8:50	-	9:00	0:10	Participant Login and Join Virtual Conference
9:00	-	9:10	0:10	Welcoming and Conference Agenda announcement by MC
9:10	-	9:20	0:10	Opening Remarks of ICSRD-26 Prof. Dr. Dyah Sugandini, S.E., M.Si. Chief of the Institute for Research and Community Service Universitas Pembangunan Nasional Veteran Yogyakarta, Indonesia
9:20	-	9:25	0:05	Token of Appreciation for Opening Speech
9:25	-	9:40	0:15	E-Group Photo
9:40	-	10:10	0:30	Keynote Speaker : Prof. Dr. Nazimah Sheikh Abdul Hamid, Auckland University of Technology, New Zealand
10:10	-	10:15	0:05	Token of Appreciation for Keynote Speaker
10:15	-	10:45	0:30	Keynote Speaker : Prof. Dr. Cham Tat Huei Swinburne University of Technology, Malaysia
10:45	-	10:50	0:05	Token of Appreciation for Keynote Speaker
10:50	-	11:20	0:30	Keynote Speaker : Prof. Dr. Abdelaziz Bouras Qatar University, Qatar
11:20	-	11:25	0:05	Token of Appreciation for Keynote Speaker
11:25	-	12:00	0:35	Lunch Break (Video played: ICSRD Program Highlight, LPPM Universitas Pembangunan Nasional Veteran Yogyakarta Profile, Research Synergy Foundation Profile)
12:00	-	12:05	0:05	Session Chair Introduction at each parallel breakout rooms (Main Room and Breakout Rooms 1 to 12) Main Room: Dr. Kok Shiong Pong - Beijing Normal-Hong Kong Baptist University, China Breakout Room 1: Asst. Prof. Dr. Shamaila Butt - Sohar University, Oman Breakout Room 2: Dr. Foong Soon Seng - Universiti Malaya, Malaysia Breakout Room 3: Dr. Rovena Dellova - Lyceum of the Philippines University, Philippines Breakout Room 4: Prof. Rowell Nitafan - University of Southern Mindanao, Philippines Breakout Room 5: Asst. Prof. Dr. Muhammad Ali Chohan - Department of Managerial and Financial Sciences, Al Zahra College for Women, Muscat, Sultanate of Oman Breakout Room 6: Dr. Nurul Alam Mohd Yaakub - MYJ Tau Systems Sdn Bhd, Malaysia Breakout Room 7: Ts. Jacqueline Joseph - Universiti Teknologi MARA, Malaysia Breakout Room 8: Asst. Prof. Alex Cristobal Garibay Jr. - Mariano Marcos State University, Philippines Breakout Room 9: Ms. Camille Rafal - Instructor, Mariano Marcos State University, Philippines Breakout Room 10: Dr. Paul B. Doronila - Central Philippines State University - Ilog Campus, Philippines Breakout Room 11: Asst. Prof. Dr. Amarjit Kene - Dr. D. Y. Patil Institute of Technology Pune, India Breakout Room 12: Asst. Prof. Ankita Singh - MNNIT Allahabad, India
12:05	-	14:35	2:30	Academic Online Presentation Session - maximum 10 presenters : 15 minutes/presenter Main Room Breakout Room 1-12
14:35	-	14:45	0:10	Awarding Certificate of Presentation, Testimonial, and Post-conference information announcement

14:35	-	14:45	0:10	Awarding Certificate of Presentation, Testimonial, and Post-conference information announcement
14:45	-	15:05	0:20	Short Break Score recapitulation Best Presenters
15:05	-	15:20	0:15	Awarding Ceremony Best Presentations Best Papers Session Chairs Recognition
15:20	-	15:30	0:10	Closing Speech of ICSRD-26 Dr. Sri Dwi Ari Ambarwati, S.E., M.Si. Conference Chair of ICSRD-26 Head of the Research Center of the Institute for Research and Community Service, Universitas Pembangunan Nasional Veteran Yogyakarta, Indonesia
Supported by : 				

LIST PRESENTER

Thursday | October 8, 2026

Thursday, October 8, 2026		
ICSRD-26, Academic Online Presentation - MAIN ROOM		
Time: 12:00 - 14:45 (UTC+7) *Please note that ALL conference TIME is in Jakarta time UTC+7. Please check your time zone.		
Session Chair: Dr. Kok Shiong Pong - Beijing Normal-Hong Kong Baptist University, China		
Track Business Administration		
Paper ID	Presenter	Paper Title
ICD26142	Khoirul Hikmah	Developing a Sustainable Performance Measurement Model for Food and Beverage MSMEs: An Exploratory Factor Analysis Approach
615241	Siti Rifani	Validating Dynamic Digital Capability Measures in Creative Youth Communities: A Partial Least Squares Study
ICD26149	R. Heru Kristanto Hc	The Effect of ESG Disclosure on Company Performance and Value: The Mediating Role of Intellectual Capital Efficiency in Indonesian Banking
ICD26155	Hastho Joko Nur Utomo	Understanding Cultural Identity Formation through Heritage Awareness and Cultural Tendency among Generation Z
ICD26194	Meilan Sugiarto	Understanding the Work Stress-Performance Link: The Mediating Role of Quiet Quitting among Indonesian Generation Z Employees
804569	Ahmad Zaki	Extending Tan's Internationalization Readiness Model: Organizational and Digital Capabilities of Non-Exporting MSMEs
943040	Satrio Tegar Gunung Koraag	Firm Size as Moderator in the Innovation, Capital Structure and Profitability Relationship
209923	Susanta	How AI Adoption Transforms Technology Acceptance into Online Purchase Behavior: An Integrated UTAUT-Technology Acceptance Model
Track Communication Studies		
Paper ID	Presenter	Paper Title
ICD26153	Susilastuti Dwi Nugraha Jati	Repositioning Citizen Journalism: A Case Study in the Special Region of Yogyakarta
Thursday, October 8, 2026		
ICSRD-26, Academic Online Presentation - BREAKOUT ROOM 1		
Time: 12:00 - 14:45 (UTC+7) *Please note that ALL conference TIME is in Jakarta time UTC+7. Please check your time zone.		
Session Chair: Dr. Shamaila Butt - Sohar University, Oman		
Track Economics		
Paper ID	Presenter	Paper Title
ICD26158	Muhammad Furqan Albarkah	Socioeconomic Determinants of Digital Financial Inclusion in Indonesia
ICD26147	Hendri Gusaptono	Empirical Mapping of Investor Attention Across LQ45 Stocks on the Indonesia Stock Exchange, 2022-2025
178722	Sri Suryaningsum	Risk Maturity and Cash Resilience: A Dynamic Quadrant Analysis of Energy-Sector Issuers
ICD26163	Hendro Widjanarko	Cooperative Empowerment Strategy: Integrating Financial Literacy and Entrepreneurship
502187	Jamzani Sodik	Four Development Regimes in Decentralized Indonesia: A Multidimensional District Typology and Its Association with Poverty
ICD26161	Yovita Nurmasari Nugroho Putri	Psychological Biases and Portfolio Decisions: Empirical Study on Gen-Z Stock Investors in Daerah Istimewa Yogyakarta
309716	Farrel Setya Kumara	Volatility Risk and Retail Investors' Asset Allocation: Parallel Mediation by Exposure Limitation and Risk Tolerance
664030	Rava Fernanda Purnama	Smart Tourism for Community-Based Tourism Resilience: The Moderating Role of Cohesive Social Structure
904687	Akhmad Syari'Udin	Economic Valuation in Sustainable Land Use Planning: A Conceptual Framework
632977	Gita Astyka Rahmanda	Assessing Indonesia's Directorate General of Taxes' Performance During Coretax Implementation: A Value for Money Approach

Thursday, October 8, 2026		
ICSRD-26, Academic Online Presentation - BREAKOUT ROOM 2		
Time: 12:00 - 14:45 (UTC+7) *Please note that ALL conference TIME is in Jakarta time UTC+7. Please check your time zone.		
Session Chair: Dr. Foong Soon Seng - Universiti Malaya - Malaysia		
Track Social Science		
Paper ID	Presenter	Paper Title
ICD26103	Prayudi	Communicating the Digital Turn: Social Media Strategy, Live Commerce, and Quadruple Helix Governance in Indonesia's Creative Economy Tourism Destination
ICD26157	Rishiri Cuaro	Moral Framing in Election-Adjacent YouTube Content: The 2022 Philippine Presidential Campaign
ICD26172	Joven Jalbuna	Leadership Without Institutional Continuity: James R. Fugate and American-Period Siquijor
157339	Dessyanto Boedi Prasetyo	A Multi-Dimensional Social Indicator Framework for Corporate Social Responsibility Program Prioritization
623500	Herlina Jayadanti	Hybrid Cyber Governance and Child Radicalization: A Global South Perspective from Indonesia
376702	Yuni Siswanti	The Influence of Green Transformational Leadership on Employee Green Creativity Mediated by Green Management Initiatives in Creative MSMEs in DIY
562913	Edwi Arief Sosiawan	Digital Historical Communication Archaeology Framework for Youth Interpretation of Java War Heritage in Indonesia
ICD26160	Alexander Bimo Sanjaya	The Influence of Financial Technology Adoption and Financial Adaptability on the Financial Performance of MSMEs in Central Java
193052	Retno Hendariningrum	Stakeholder Communication in Heritage Place Branding: The Case of Yogyakarta's UNESCO Cosmological Axis
917794	Rava Fernanda Purnama	Adopting Climate-Resilient Agriculture: The Role of Institutional Support, Information, and Behaviour
Thursday, October 8, 2026		
ICSRD-26, Academic Online Presentation - BREAKOUT ROOM 3		
Time: 12:00 - 14:45 (UTC+7) *Please note that ALL conference TIME is in Jakarta time UTC+7. Please check your time zone.		
Session Chair: Dr. Rovena Dellova - Lyceum of the Philippines University, Philippines		
Track Social Science		
Paper ID	Presenter	Paper Title
673447	Dyah Sugandini	How Smart Tourism Technology Shapes Life Satisfaction and Revisit Intention
ICD26168	Muhammad Edy Susilo	From Assumption to Evidence: A Needs-Based Design for International Publication Mentoring
ICD26171	Maria Yosefina Meinadia Sekar Kinanti Aswirawan	From Watching to Buying: A Netnographic Study of Impulsive Buying Behavior on TikTok and Shopee Live Shopping
471548	Basuki Agus Suparno	Communicating Contested Risks: Mining Concessions to Religious Organizations in Indonesia
939217	Rava Fernanda Purnama	Transforming Strategy into Performance: Digital Capabilities and SME Success in the Digital Economy
717373	Asep Saepudin	Government Metagovernance and Sustainable Development Goal Localisation Across Political Systems: A Systematic Review
133407	Medi Trilaksono Dwi Abadi	The Influence of Social Capital on Sustainable Tourism Through Digital Literacy in Kebonagung Tourism Village
Track Tourism Management		
Paper ID	Presenter	Paper Title
ICD26146	Niswatul Faizah	AI-Generated Visual Authenticity and Perceived Justice Drive Tourist Patronage Intentions
ICD26164	Humam Santosa Utomo	Regenerative Tourism: A Case Study of Wukisari Tourism Village, Bantul, Yogyakarta
484891	Riza Prapascatama Agusdin	Analyzing User Generated Content in Yogyakarta Tourism Through Integrated TF-IDF, LDA, and Qualitative Descriptive Analysis

Thursday, October 8, 2026		
ICSRD-26, Academic Online Presentation - BREAKOUT ROOM 4		
Time: 12:00 - 14:45 (UTC+7) *Please note that ALL conference TIME is in Jakarta time UTC+7. Please check your time zone.		
Session Chair: Prof. Rowell Nitafan - University of Southern Mindanao, Philippines		
Track International Relations		
Paper ID	Presenter	Paper Title
ICD26148	Iva Rachmawati	Understanding the Pre-partnership Stage in Subnational International Cooperation
ICD26159	Harmiyati	Quantum Diplomacy: An Analytical Framework for the Disruptive Technology Era
ICD26170	Sri Issundari	Paradiplomatic Information Infrastructure: Towards Strengthening Local–Global Collaborative Networks for Local Governments in Indonesia
ICD26169	Agussalim	From Cultural Capital to Global Influence: A Conversion-Chain Framework for Local Wisdom in Indonesian Cultural Diplomacy
ICD26187	Khaira Putri Maharani	Building Cyber Confidence: ASEAN's Defence Diplomacy through ADMM-Plus
Track Political Science		
Paper ID	Presenter	Paper Title
ICD26189	Yuseptia Angretnowati	Platform Governance in the Prevention of Child Radicalization in Indonesia: A Policy Network Analysis
Track Sociology		
Paper ID	Presenter	Paper Title
212181	Siti Nurbayani	Socioeconomic Inequalities and The Execution Gap: A Critical Analysis of Student Entrepreneurship
Track Human Resources Management		
Paper ID	Presenter	Paper Title
ICD26177	Yeris Permata Octarina	Strategic Human Resource Management (SHRM) Framework in Navigating Streamlining Process in the State-owned Enterprises: A Literature Review
251773	Herlina Dyah Kuswanti	Strategies to Strengthen the Global Competitiveness of Master of Management Graduates: A SWOT Analysis of X University

Thursday, October 8, 2026		
ICSRD-26, Academic Online Presentation - BREAKOUT ROOM 5		
Join Zoom Meeting: https://us06web.zoom.us/j/81997285450?pwd=opgDxPeaqsIAmF3UWY6sMLrR6IQZA.1 OR https://bit.ly/ICSRD26-Zoom Meeting ID: 819 9728 5450 Passcode: ICSRD-26		
Time: 12:00 - 14:45 (UTC+7) *Please note that ALL conference TIME is in Jakarta time UTC+7. Please check your time zone.		
Session Chair: Dr. Muhammad Ali Chohan - Universiti Teknologi Malaysia, Malaysia		
Track Economic Development		
Paper ID	Presenter	Paper Title
ICD26101	Didi Nuryadin	A National SKI-Based Child Stunting Risk Index for Concurrent Vulnerability Screening of Child Nutritional Risk in Indonesia
ICD26180	Purwiyanta	The Dynamic Analysis of Economic Openness and Regional Economic Growth in Indonesia
Track Agricultural Economics		
Paper ID	Presenter	Paper Title
321563	Antik Suprihanti	Garlic Import Dependence and Farmers Persistence in Indonesia: Evidence from Garlic Farmers in Temanggung Regency
595738	Sujatmika	The Effect of Digital Marketing on the Income of Wooden Batik Micro and Small Enterprises in Krebet Hamlet, Bantul Regency
ICD26197	Maylan Iga Prastika	Constraints in the Implementation of Post-Harvest Management Practices among Organic Rice Farmers in Karanganyar Regency, Central Java
Track Economics		
Paper ID	Presenter	Paper Title
ICD26191	Nilmawati	Financial Literacy and Sustainability: The Mediating Role of Innovation Capabilities
Track Education		
Paper ID	Presenter	Paper Title
360212	Mary Grace Cruz	Beyond Global Rankings: Internal University Stakeholders' Lived Experiences of Educational Quality
489439	Eni Muryani	Mapping the Diversity and Distribution of Appropriate Technology in University Student Community Services
480019	Muhammad Hafid Fahrudinsyah	An Outcome-Based Bachelor-Master Fast-Track Framework for Mining Engineering
Thursday, October 8, 2026		
ICSRD-26, Academic Online Presentation - BREAKOUT ROOM 6		
Time: 12:00 - 14:45 (UTC+7) *Please note that ALL conference TIME is in Jakarta time UTC+7. Please check your time zone.		
Session Chair: Nurul Alam Mohd Yaakub - MY Tau Systems Sdn Bhd, Malaysia		
Track Agricultural Science		
Paper ID	Presenter	Paper Title
787710	Susila Herlambang	Biochar and Humic Acid Effects on Soil Properties and Soybean Growth in Coastal Sandy Soil
170081	Choirin Wahyuning Tyas	Evaluation of Artemisia vulgaris Essential Oil-Kaolin Combinations as Repellents against Diaphorina citri
ICD26167	R.R. Rukmowati Brotodjojo	Temperature-Dependent Effects of Beauveria bassiana on Germination and Early Growth of Allium cepa Seedlings
826759	Ni Kadek Ema Sustia Dewi	Viability and Vigour Response of Hybrid Melon (Cucumis Melo L.) to Sargassum Extract Priming Under Salinity Stress
767274	Partoyo	Coal Humic Acid and SP-36 Effects on Phosphorus Availability and Uptake by Pakcoy in Ultisol
Track Smart Agriculture		
Paper ID	Presenter	Paper Title
244972	Andiko Putro Suryotomo	Ranking Cocoa Land Suitability Growth Requirements with Random Forest for a Spatial Decision-Support Platform

Thursday, October 8, 2026		
ICSRD-26, Academic Online Presentation - BREAKOUT ROOM 7		
Time: 12:00 - 14:45 (UTC+7) *Please note that ALL conference TIME is in Jakarta time UTC+7. Please check your time zone.		
Session Chair: Ts. Jacqueline Joseph - Universiti Teknologi MARA, Malaysia		
Track Agricultural Engineering		
Paper ID	Presenter	Paper Title
ICD26145	Didi Saidi	Evaluation of Land Suitability for Vegetable and Fruit Crops to Support the Free Nutritious Meal Program on the Bina Umat Islamic Boarding School Grounds
732075	Oliver Samuel Simanjuntak	Toward Smart Agrotourism: Co-Creating a Living Lab for Premium Melon Farmin
Track Agricultural Science		
Paper ID	Presenter	Paper Title
278334	Maftuh Kafiya	Rice Postharvest Practices among Marginal-Land Farmers in Gunungkidul Regency
333169	Azizah Ridha Ulilbab	Attractiveness of the Agrotechnology Study Program and the Role of Social Media in Student Enrollment Decisions
ICD26188	Endah Wahyurini	Estimation of Genetic Parameters, Genetic Variability, and Heritability Values of 10 Curly Chili Genotypes (Capsicum annuum L.)
384840	Bambang Supriyanta	Molecular Diversity and Genetic Relationships among Melon (Cucumis melo L.) Genotypes Revealed by RAPD Markers
Thursday, October 8, 2026		
ICSRD-26, Academic Online Presentation - BREAKOUT ROOM 8		
Time: 12:00 - 14:45 (UTC+7) *Please note that ALL conference TIME is in Jakarta time UTC+7. Please check your time zone.		
Session Chair: Asst. Prof. Alex Cristobal - Mariano Marcos State University, Philippines		
Track Earth Science		
Paper ID	Presenter	Paper Title
ICD26140	Septyo Uji Pratomo	Preliminary REE Characteristics of Selected Metamorphic and Metasedimentary Rocks from Bayat, Central Java
ICD26141	Arizal Bawasir	Monitoring a Short-Term Dry-to-Wet Soil-Moisture Transition Using GPS Multipath in Tropical Environment
254403	Adistina Lailia Fajar Dewi	Evaluating Spectral Consistency of Fe-Related Wavelength Ranges between EO-1 Hyperion and Field Spectrometer Data in the Kulon Progo Iron Sand Deposit
331637	Muhammad Faizal Zakaria	Application of Time Domain Induced Polarization (TDIP) Methods Detecting Manganese Minerals
327987	Putri Amallia Utami	Glycolipid Biosurfactants for Enhanced Oil Recovery in High-Wax Crude Oil Reservoirs: A Review
886166	Nida Insani Firdaus	TiO ₂ Nanoparticles in Low-Salinity Waterflooding: An Experimental Study on Wettability Alteration and Oil Recovery
841726	Piescha Egydhea Ardhana Riswari	Turning Waste into Action: Stakeholder Mapping for Extended Producer Responsibility in Sustainable Packaging
834621	Claudio Efraro Anggoro	Performance Evaluation of Immiscible Water Alternating Gas Injection Using Integrated Asset Modelling
214183	Monica Warih Widi Krisanti	Development of a Community-Based Anticipatory Action Protocol for Landslide Early Warning Systems
ICD26190	I Putu Raditya Ambara Putra	Resolution Limits of Global Seismic Tomography for Imaging the Flores Back-Arc Thrust: A Tectoglob3D-Based Assessment of the 2026 Mw 7.7 Flores Earthquake

Thursday, October 8, 2026		
ICSRD-26, Academic Online Presentation - BREAKOUT ROOM 9		
Time: 12:00 - 14:45 (UTC+7) *Please note that ALL conference TIME is in Jakarta time UTC+7. Please check your time zone.		
Session Chair: Ms. Camille Rafal - Instructor, Mariano Marcos State University (MMSU) MS Meteorology Student, University of the Philippines Diliman (UPD)		
Track Earth Science		
Paper ID	Presenter	Paper Title
ICD26173	Rahmawati Fitrianingtyas	Landslide Susceptibility Mapping Using GIS-Based Analytical Hierarchy Process in Pejawaran District, Banjarnegara
276448	Riski Kurniawan	Modified Surface Electrodes with Bentonite Coupling for 2D Electrical Resistivity Tomography (ERT) on Interlocking Paving-Block Surfaces
ICD26175	Wening Aisyah Fauziana Koman	Leveraging Overture Maps for Micro-Level Road Network Connectivity Assessment: A Comparative Analysis across Urban, Suburban, and Rural Areas
Track Geology		
Paper ID	Presenter	Paper Title
ICD26151	Raditya Danisworo	Volcanic Rock Characteristics of Arjuno–Anjasmoro Volcanoes in Tulungrejo Geothermal Prospect Area East Java
412005	Alfath Alif Putra Pratama	Integrating Geosite Assessment and Geo-Bio-Cultural Association for Sustainable Geotourism in Dieng National Geopark
272658	Ikhwannur Adha	Landslide Movement Detection Using DInSAR and Sentinel-1A Imagery in a Tropical Volcanic Highland
900668	Siti Umiyatin Choiriah	Transforming the Doctoral Program in Geological Engineering Toward Excellent Accreditation: An Integrative Model of Academic Quality, Research Output, and Internationalization
Track Environment Studies		
Paper ID	Presenter	Paper Title
ICD26182	Putri Aditya Padma Pertiwi	Effects of Straw Return and Soil Amendments on Methane Emissions During Early Anaerobic Incubation of Paddy Soil
ICD26185	Eni Muryani	Hybrid Constructed Wetland Performance Using Cyperus rotundus for Batik Wastewater Treatment
ICD26186	Calvin Simon Valentinus Manik	Mapping Reverse Osmosis Research for Drinking Water Treatment: A Bibliometric Analysis of Trends and Applications
Thursday, October 8, 2026		
ICSRD-26, Academic Online Presentation - BREAKOUT ROOM 10		
Time: 12:00 - 14:45 (UTC+7) *Please note that ALL conference TIME is in Jakarta time UTC+7. Please check your time zone.		
Session Chair: Paul B. Doronila, Ph.D. - Central Philippines State University, Ilog Campus, Philippines		
Track Energy		
Paper ID	Presenter	Paper Title
ICD26144	Heru Suharyadi	Cost Estimation of Coal Utilisation Technology for Coal Bed Methane (CBM) Using H ₂ O ₂
132222	Perwitasari	Green Pretreatment Using Deep Eutectic Solvents to Enhance Lipid Recovery from Chlorella vulgaris
327158	Shofa Rijalul Haq	Elemental Changes of Wahau Low-Rank Coal after Hydrogen Peroxide Pretreatment: Implications for Coal Bioavailability
Track Environment Studies		
Paper ID	Presenter	Paper Title
ICD26196	Dina Asrifah	Characterization of SPPG Wastewater for Treatment Planning in Sleman Regency
131795	Sutarto	Integrating Environmental Rehabilitation and Geoconservation in Manganese Geoheritage
ICD26184	Faizal Agung Riyadi	Runoff Discharge and Sedimentation Yield Assessment for Mine Drainage Design in Lateritic Nickel Mining
280001	Octa Aghusta Dioriva Simatupang	Thermodynamic Screening of Solvents for Ternary Cellulose Acetate Blend Membranes Using Hansen Solubility Parameters

Thursday, October 8, 2026		
ICSRD-26, Academic Online Presentation - BREAKOUT ROOM 11		
Time: 12:00 - 14:45 (UTC+7) *Please note that ALL conference TIME is in Jakarta time UTC+7. Please check your time zone.		
Session Chair: Asst. Prof. Dr. Amarjit Kene - Dr. D. Y. Patil Institute of Technology Pune, India		
Track Industrial engineering		
Paper ID	Presenter	Paper Title
ICD26152	Nuzila Putri Al Bana	A Hybrid TOPSIS–PIV Method with Compromise Weighting of SWARA and MEREC for Supplier Selection in the Indonesian Leather Industry
ICD26162	Nanda Yunia Erma	Preparation and Characterization of Red Seaweed (Eucheuma cottonii)-Based Bioplastic Reinforced with Polyvinyl Acetate (PVAc)
ICD26156	Calvin Simon Valentinus Manik	Methylene Blue Adsorption Using the Metal-Organic Framework of Calcium Alginate (CaA)
985710	Dyah Rachmawati Lucitasari	Integration of Macro-Ergonomic Evaluation Using MOQS and Ventilation Intervention to Mitigate Worker Fatigue in a Meat Floss Home-Based Industry
ICD26165	Aliza Alfarisi	A User-Centered Architecture for E-Budgeting: Designing Role-Based Interfaces for Public Administration
ICD26166	Fikri Kalbarqi	Prioritizing Supply Chain Risk for Flexibility and Resilience: A House of Risk Approach
939207	Mohamad Irhas Effendi	Integrated Workflow for Idle Well Reactivation in a Mature Oil Field
Track Civil Engineering		
Paper ID	Presenter	Paper Title
ICD26102	Herdika Baruna Aridani	Trip Generation and Emission Estimation for a Toll Access-Integrated Economic Area: A Peri-Urban Corridor Case Study
Track Mineral Technology		
Paper ID	Presenter	Paper Title
831133	Frideni Yushandiana Putri G.F.	Time-Dependent Effects of Grind Fineness on Gold Cyanidation Kinetics and Extraction
383971	Ifa Aulia Chusna	Preliminary Assessment of the Economic Potential of Rare Earth Elements Associated with Coal in Wahau Formation

Thursday, October 8, 2026		
ICSRD-26, Academic Online Presentation - BREAKOUT ROOM 12		
Time: 12:00 - 14:45 (UTC+7) *Please note that ALL conference TIME is in Jakarta time UTC+7. Please check your time zone.		
Session Chair: Asst. Prof. Ankita Singh - MNNIT Allahabad, India		
Track Information technology		
Paper ID	Presenter	Paper Title
ICD26150	Muhammad Ruhul Jadid	Translating Halal Control Requirements into BPMN Business Rules for QR Code Traceability
795361	Juwairiah	Information Security Risk Management Using ISO/IEC 27005 to Ensure the Continuity of Academic Services at UPN "Veteran" Yogyakarta
ICD26192	Aldila Putri Linanzha	The Development of an Automated Essay Scoring (AES) Dataset for Indonesian Language Using OCR and Inter-Rater Validation
883237	Awang Hendrianto Pratomo	Optimization of Mount Merapi Image Classification Through the Implementation of the Clahe Algorithm
Track Informatics		
Paper ID	Presenter	Paper Title
980459	Aldila Putri Linanzha	Human-in-theLoop 1D-CNN DDoS Detection Integrated with MikroTik Firewall Mitigation
ICD26176	Herlina Jayadianti	Vegetation-Based Early Warning System for Post-Mining Reclamation to Reduce Disaster Risk and Achieve SDGs
Track Computer Science		
Paper ID	Presenter	Paper Title
352990	Bagus Muhammad Akbar	Medicinal Plant Leaf Classification: From Hand-Crafted Features to Real-Time Mobile Deep Learning
287313	Agus Sasmito Aribowo	Optimization Semi-Supervised Learning Using Confidence-Guided Adaptive Co-Training for Sentiment and Emotion Analysis
Track Electrical Engineering		
Paper ID	Presenter	Paper Title
332057	Willis Kaswidjanti	Development of a Decision Support System Framework for Intelligent Transportation System Adoption Evaluation Based on SEM-PLS Analysis
ICD26143	Ridvan Firat Cinar	Metric-Based Reliability Transition Detection in Multisensor Localization

Track: Civil Engineering



Trip Generation Models with Emission Estimates for Transportation Impact Analyses: A Case Study of a Toll Access Integrated Economy Area in Peri-Urban Transition Corridor

| Adi Arrasyid¹, Anak Agung Sagung Sukmayonie Gayatri¹, Nur Oktaviani Widiastuti², Mukhammad Rizka Fahmi Amrozi¹, Muhammad Zudhy Irawan¹, Herdika Baruna Aridani¹

¹Universitas Gadjah Mada, ²The University of Tokyo

Abstract

This study examines the traffic and environmental impacts of integrating a toll access node with an Integrated Economic Area (IEA) in a peri-urban corridor along the Yogyakarta–Bawen Toll Road. A quantitative framework decomposes traffic demand into existing, toll-induced, and IEA-generated trips, projects each over 40 years, and estimates VKT-based emissions. Results show strong demand amplification, especially early in operation, as combined trip generation accelerates growth beyond conventional projections. While the Banyurejo T-intersection performs acceptably under planned upgrades, environmental impact is significant: annual VKT rises more than fourteen-fold, with CO₂ emissions climbing from about 4,700 to over 67,000 tonnes/year by 2070. These findings expose the limits of conventional impact assessments focused on traffic alone and highlight the need for integrated frameworks combining mobility and emission dimensions. The novelty of this study lies in its integrated decomposition framework, which jointly quantifies existing, toll-induced, and land-use-generated traffic components and links their long-term projections directly to vehicle-kilometers-traveled-based emission estimation, an integration rarely addressed in conventional transportation impact assessments.

Keywords: Keywords: Peri-urban corridor, Integrated Economic Area (IEA), Traffic demand projection, Vehicle Kilometers Traveled (VKT), Carbon emissions

Track: Social Science



Communicating the Digital Turn: Social Media Strategy, Live Commerce, and Quadruple Helix Governance in Indonesia's Creative Economy Tourism Destination

| Ninik Probosari¹, M. Edy Susilo¹, Prayudi Prayudi²

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Abstract

Digital transformation among creative economy micro, small, and medium enterprises (MSMEs) in Indonesia's Super Priority Tourism Destinations remains structurally uneven despite growing international visibility, and existing scholarship predominantly explains this gap through technological and economic variables while overlooking its communicative dimension. This study aims to reposition digital transformation as a communication-governance phenomenon, examining how narrative construction, content-mediated identity performance, and multi-stakeholder dialogue shape MSME digital adoption in Mandalika, Lombok Tengah Regency, West Nusa Tenggara. A qualitative design was employed, comprising 32 in-depth interviews and ethnographic observation across four sites conducted between April and May 2026, analysed through reflexive thematic analysis and integrated with the Quadruple Helix communication governance framework. Findings identify three overlapping communication challenges: fragmented digital communication competency along generational and spatial lines; underutilised culturally anchored narrative identity in social media content; and the structural absence of institutionalised cross-helix communication linking the Mandalika Special Economic Zone's international tourism economy with the regency's indigenous creative economy base. The study advances a Communication Mediated Digital Transformation (CMDT) model built on four pillars, each carrying a specific practical implication: narrative localisation, requiring producers to embed documented cultural provenance into content to build purchase trust; live commerce as communicative performance, requiring platform and government-supported training in real-time video presentation; cooperative content infrastructure, offering shared-resource clusters as a scalable alternative for infrastructure-poor artisan communities; and Quadruple Helix dialogue institutionalisation, requiring formal communication protocols connecting government, tourism industry actors, academia, and village-level civil society to close the boundary gap between the Special Economic Zone and the local creative economy.

Keywords: digital transformation, creative economy, social media marketing, Quadruple Helix, tourism destination

Moral Framing in Election-Adjacent YouTube Content: The 2022 Philippine Presidential Campaign

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Abstract

The 2022 Philippine presidential race was the country's most digitally contested to date, with YouTube serving as a key venue for building, spreading, and challenging political and moral appeals. While scholars have examined official campaign materials, coordinated influencer networks, and disinformation ecosystems, the political undertones of informal, election-adjacent YouTube content remain comparatively unexamined. This paper presents a qualitative content analysis of three such videos: “Wag Magpapabudol,” a voter-awareness advertisement fronted by actress Angelica Panganiban; “Bitter Len-Len,” a scripted web-series segment featuring Senator Imee Marcos dismissing online critics as bitter “bashers”; and “Nauto ka na ba ng mga nagmamalinis?”, a lifestyle vlog addressing performative moral superiority. Using framing theory, the study traces how political and moral frames are built and differentiated across this spectrum of advocacy, commentary, and lifestyle content, all of which engage the campaign's moral economy through the themes of voter deception, voter irrationality, and moral hypocrisy. Independently verified YouTube metrics show that a production house's existing audience predicted a video's reach more strongly than how explicitly it engaged the campaign's politics. The paper argues that moral framing in election-adjacent YouTube content works as a form of political persuasion operating beneath the threshold of formal campaign communication, and proposes a transferable analytical procedure for examining YouTube video corpora in electoral settings.

Keywords: Keywords: moral framing; bobotante; nagmamalinis; framing theory; 2022 Philippine elections

Leadership Without Institutional Continuity: James R. Fugate and American-Period Siquijor

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Abstract

Scholarship on the American colonial Philippines has shown that local governance emerged through interactions among colonial institutions, local elites, and individual administrators. Fugate has also been examined as an embodiment of colonial bureaucratic masculinity, but whether the administrative practices associated with his Siquijor administration continued after he left office has received less attention. This study examines James R. Fugate's leadership in Siquijor and asks whether the developmental practices associated with his administration became an enduring local tradition. It uses historical documentary analysis and source criticism within a chronological-biographical and microhistorical framework. The evidence includes a corpus of 20 newspaper items published from 1907 to 1936, Act No. 1753, related official issuances, and relevant secondary works. The Hersey–Blanchard Situational Leadership Model is applied as an interpretive lens rather than as evidence of contemporary perceptions. Newspaper accounts associated Fugate's administration with local trust, pragmatic resource management, and improvements in roads, water systems, communications, agriculture, and education. Evidence from the period after his 1914 defeat, however, indicates that these gains were not sustained uniformly across leadership changes, although development later resumed under Sergio Jumawan. The case therefore demonstrates that adaptive individual leadership could produce significant local improvements within a peripheral colonial subprovince without ensuring institutional continuity. It argues that administrative gains become durable only when effective practices are embedded in budgets, documented responsibilities, maintenance systems, transparent procedures, and local civil-service capacity.

Keywords: Colonial governance, local leadership, microhistory, situational leadership, institutionalization

A Multi-Dimensional Social Indicator Framework for Corporate Social Responsibility Program Prioritization

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Abstract

Corporate social responsibility (CSR) planning requires a transparent method for comparing community needs across locations. This study develops a multidimensional social indicator framework for prioritizing place-based CSR programs. An exploratory sequential design combined expert consultation with weighted composite-index analysis. Three purposively selected experts representing academia, CSR practice, and government reviewed six indicators across five dimensions, while 2023 official statistics were compiled for five administrative areas in the Special Region of Yogyakarta. Direction-aware Min–Max normalization aligned adverse and protective indicators so that higher normalized values consistently represented greater relative need. Moderated consensus assigned the largest weight to poverty (0.25). Composite scores ranged from 0.150 to 0.746: Gunungkidul ranked first (0.746), followed by Kulon Progo (0.681), Bantul (0.519), Sleman (0.243), and Yogyakarta City (0.150). The ordering remained unchanged under equal weighting and 12 one-at-a-time $\pm 10\%$ weight-perturbation scenarios, indicating local rank stability. The framework contributes an auditable bridge between social mapping and CSR resource allocation by disclosing indicator definitions, directions, weights, normalized values, and sensitivity results. It is intended as a first-stage screening tool for transparent, evidence-informed, and context-sensitive allocation decisions rather than a substitute for community consultation or feasibility assessment. Findings remain conditional on the selected indicators, three-expert panel, five-area comparison, and cross-sectional dataset.

Keywords: Corporate Social Responsibility, Social Indicators, Multi-Criteria Assessment, Priority Framework, Social Mapping

Stakeholder Communication in Heritage Place Branding: The Case of Yogyakarta's UNESCO Cosmological Axis

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Abstract

The designation of the Cosmological Axis of Yogyakarta as a UNESCO World Heritage Site in 2023 created opportunities to strengthen its global identity while preserving its philosophical values and supporting local communities. However, how stakeholders translate these values into a coherent place brand remains insufficiently understood. This study examines stakeholder roles, communication processes, and coordination constraints in heritage place branding. A qualitative case study was conducted through semi-structured interviews with seven informants representing the Balai Pengelolaan Kawasan Sumbu Filosofi (BPKSF), three local administrative units, and two Tourism Awareness Groups (Pokdarwis). The interviews were supplemented by UNESCO, heritage-management, regulatory, institutional, and communication documents, and the data were analyzed thematically. The findings demonstrate that BPKSF functions primarily as a coordinator, facilitator, and institutional bridge; local administrative units mediate communication between higher-level authorities and local communities; and Pokdarwis translates institutional heritage narratives and philosophical values into locally grounded cultural activities, tourism experiences, and kampung narratives. Communication occurs through coordination meetings, working groups, community consultations, heritage education, and cultural events. Nevertheless, information remains unevenly distributed, stakeholder initiatives are fragmented, and local potential has not been integrated into a coherent heritage place brand. The study contributes by conceptualizing heritage place branding as a multilevel heritage-value translation process involving institutional coordination, local contextualization, and community-based experiential translation.

Keywords: stakeholder communication, heritage place branding, heritage governance, UNESCO World Heritage Site, Cosmological Axis of Yogyakarta

From Assumption to Evidence: A Needs-Based Design for International Publication Mentoring

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Abstract

Publication in reputable international journals is one of the principal criteria used to evaluate lecturers' academic performance at Indonesian universities. This study maps the readiness, obstacles, and expectations of lecturers at a faculty of social and political sciences regarding a proposed workshop and mentoring program for international publication, using the Faculty of Social and Political Sciences (FISIP), Universitas Pembangunan Nasional "Veteran" Yogyakarta, as an empirical case. Using a descriptive quantitative approach, data were collected through an online questionnaire completed by 29 lecturers and analyzed through descriptive statistics and thematic categorization of open-ended responses. Most respondents were actively engaged in research (93.1%) and had already set a target for international publication (96.6%), yet publication output over the past three years remained concentrated at one to two articles (55.2%). The most pressing obstacles were the Article Processing Charge, or APC (mean score 3.21), and difficulty selecting a suitable target journal (3.10); understanding of predatory journals was the weakest area (2.62). The manuscript clinic was the most anticipated activity format (82.8%), with a submission-ready manuscript identified as the primary expected outcome. These results point to a need for sustained, practice-based mentoring rather than one-off training, and the resulting needs-analysis framework is offered as a model other faculty facing comparable structural constraints may adapt to their own context.

Keywords: international publication; reputable journals; academic mentoring; social science faculty; needs analysis.

From Watching to Buying: A Netnographic Study of Impulsive Buying Behavior on TikTok and Shopee Live Shopping

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Abstract

The rapid growth of live commerce has reshaped Indonesian consumers purchasing behavior, encouraging impulsive purchases even among viewers who initially had no intention to buy. Prior studies on impulsive buying in live streaming commerce have been dominated by quantitative, leaving the in-the-moment social and emotional processes that precede a purchase underexplored. This study aims to explore how and why viewers with no prior purchase intention are drawn into impulsive buying during TikTok Live and Shopee Live sessions, focusing on the roles of social presence, scarcity and emotion (pleasure and arousal). A netnographic approach was employed, comprising non-intervening observation of live-shopping sessions in the fashion, skincare, and make-up categories, documentation of the comment column, and in-depth interviews with 9 informants who experienced impulsive purchases. Data were analysed thematically in NVivo using a word frequency query and a matrix coding query. The word frequency analysis showed that host utterances marked by intimate address terms such as “kakak” and “sayang”, together with urgency cues such as “boleh”, “ambil”, and “langsung”, dominated the discourse of the sessions, reflecting strong communication and emotional presence. The matrix coding query further showed that product scarcity and arousal exhibited the strongest co-occurrence with impulsive-buying references, particularly the emotional-impulse type, while social togetherness and payment convenience played a comparatively minor role. These findings provide a qualitative foundation for the subsequent quantitative validation of a social presence-scarcity-emotion-impulsive buying model and offer practical implications for digital business and SME live-selling strategies

Keywords: live shopping, impulsive buying, social presence, scarcity, netnography

Track: Economic Development



A National SKI-Based Child Stunting Risk Index for Concurrent Vulnerability Screening of Child Nutritional Risk in Indonesia

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Abstract

Indonesia has made progress in reducing child stunting, but current policy and surveillance systems largely identify children only after anthropometric growth deficits have occurred. This approach overlooks the accumulation of biological, infection, nutritional, and caregiving risks that precede measurable stunting. This study develops a Child Stunting Risk Index (CSRI) using the 2023 Indonesian Health Survey to support early and preventive risk prioritisation among children aged 0–59 months. The CSRI is designed as a concurrent vulnerability screening tool rather than a diagnostic measure or an estimator of stunting prevalence. The formative index combines age-eligible proximal indicators within two dimensions: biological/infection risks and nutrition/care risks. Indicators are aggregated using nested equal weighting, subject to minimum data-coverage requirements. Risk categories are determined using a sample-relative traffic-light classification and assessed through leave-one-out known-group validation against established child growth risk markers. Among 82,678 children with valid scores, the weighted mean CSRI was 0.126, equivalent to 12.56 on a 0–100 scale, with mean indicator coverage of 96.45%. Overall, 25.64% of children were classified as having high or very high risk. Risk was highest among children aged 6–23 months and in Maluku-Papua, Sumatra, and Sulawesi. Higher scores were consistently observed among children exposed to low birth weight, prematurity, incomplete immunisation, inadequate dietary diversity, limited growth monitoring, and suboptimal breastfeeding and feeding practices. Theoretically, the study extends stunting assessment from outcome-based measurement to a multidimensional vulnerability framework. Practically, the CSRI provides a scalable tool for targeting preventive interventions before growth failure becomes observable.

Keywords: Stunting risk, Vulnerability screening, Child nutrition, Composite index, Indonesia

The Dynamic Analysis of Economic Openness and Regional Economic Growth in Indonesia

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Abstract

Economic openness has become a central component of regional development in Indonesia, yet its growth effects remain uneven across provinces because trade exposure, investment inflows, infrastructure, and absorptive capacity differ substantially. This study examines the dynamic relationships among trade openness, foreign direct investment (FDI), their interaction, and regional economic growth in 34 Indonesian provinces, 2015-2025. The empirical analysis employs a panel Vector Error Correction Model (VECM), complemented by Pairwise Granger Causality tests, Johansen cointegration tests, impulse response functions, and variance decomposition. The results identify bidirectional causality between trade openness and growth, supporting both the trade-led growth and growth-driven trade hypotheses. A significant two-way relationship is also found between economic openness and growth, indicating that the joint effects of international market access and foreign capital are more informative than either channel in isolation. The Johansen test confirms one long-run cointegrating relationship, while the error-correction coefficient of -0.240885 indicates that approximately 24.09% of disequilibrium is corrected in each period, implying a gradual return to equilibrium over roughly two to three years. Variance decomposition further shows that FDI shocks become the dominant source of long-run growth fluctuations, accounting for 63.82% of the forecast error variance by the tenth period. These findings suggest that regional policy should prioritize the quality, stability, and domestic linkages of FDI, strengthen local absorptive capacity, and integrate trade and investment strategies to promote more resilient and inclusive regional growth.

Keywords: Economic openness, Trade openness, Foreign direct investment, Regional economic growth, Panel VECM

Track: Biochemical Engineering



Sustainable Fucoxanthin Production from Diatoms via Green Phytohormones

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Abstract

This critical literature review evaluates sustainable strategies for fucoxanthin production from diatoms, addressing the bottleneck of relying on costly, synthetic phytohormones. By systematically comparing green phytohormone sourcing—specifically organic wastewater valorization and engineered microalgae-bacteria consortia—this paper introduces a novel, zero-waste biorefinery paradigm for scalable pigment biosynthesis. While wastewater provides a zero-cost nutrient stream, this analysis establishes that symbiotic microalgae-bacteria consortia offer a superior commercial approach. These engineered systems naturally supply essential elicitors like indole-3-acetic acid (IAA) in a controlled loop, bypassing contamination risks and intensive pretreatment costs. Ultimately, this review aims to identify the most economically viable and ecologically sustainable pathway for pharmaceutical-grade fucoxanthin production

Keywords: diatom, phytohormone, fucoxanthin

Waste Cooking Oil-Derived Methyl Ester Sulfonate for Enhanced Oil Recovery: A Short Review

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Abstract

The increasing demand for sustainable chemical enhanced oil recovery (EOR) has encouraged the development of bio-based surfactants from renewable and low-cost feedstocks. Methyl ester sulfonate (MES) derived from waste cooking oil (WCO) is a promising alternative because of its surface activity and potential contribution to waste valorization. This study presents a structured narrative review linking WCO characteristics, transesterification, MES synthesis, and EOR performance. The reviewed studies indicate that free fatty acid content, moisture, oxidation products, and impurities strongly affect FAME quality and subsequent MES synthesis. Alkali-catalyzed transesterification was commonly reported at 60–65 °C using methanol-to-oil molar ratios of 6:1–9:1 and approximately 1 wt% catalyst. Continuous SO₃-based sulfonation generally provides higher process efficiency and MES quality, whereas NaHSO₃-based processes offer simpler laboratory-scale operation. Reported MES-based systems showed substantial reductions in oil–water interfacial tension and incremental oil recoveries of approximately 25–69% under different experimental conditions. However, direct comparison remains limited by the small number of studies covering the complete WCO–FAME–MES–EOR pathway and by differences in formulations and test conditions. Future studies should integrate standardized feedstock characterization, FAME and MES quality assessment, and reservoir-relevant testing within the same experimental framework.

Keywords: Methyl ester sulfonate, waste cooking oil, chemical enhanced oil recovery, sulfonation, transesterification

Track: Earth Science



Preliminary REE Characteristics of Selected Metamorphic and Metasedimentary Rocks from Bayat, Central Java

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Abstract

Bayat, Central Java, exposes metamorphic and metasedimentary rocks in the West and East Jiwo Hills, where REE characteristics remain insufficiently documented despite prior work on petrography, mineralogy, structure, and mineralization. This study presents a preliminary evaluation of REE variation in four samples from Gunung Gajah, Gunung Cakaran, Jokotuo, and Sekarbolo, based on megascopic descriptions and whole-rock REE concentrations from La to Lu, compared through total REE (Σ REE) and chondrite-normalized patterns. Σ REE values range from 88.18 to 163.46 ppm, highest in Sekarbolo and lowest in Gunung Gajah, with Gunung Cakaran and Jokotuo intermediate, and the chondrite-normalized patterns generally show LREE enrichment relative to HREE. These differences may reflect variations in siliciclastic input, mica- or clay-rich components, carbonate dilution, source-rock composition, and REE-bearing accessory mineral abundance, though the specific mineral hosts cannot be determined from megascopic and whole-rock data alone. By documenting these inter-locality differences, this study contributes the first preliminary REE dataset for the Jiwo Hills metamorphic complex, establishing a geochemical baseline not previously available. The observed variation should nonetheless be regarded as a preliminary signal rather than definitive evidence of REE mineralization or economic potential, requiring further study through additional samples, major and trace element geochemistry, detailed petrography, XRD, SEM-EDS, and mineral chemistry.

Keywords: Bayat, metamorphic rocks, metasedimentary rocks, rare earth elements, chondrite-normalized pattern

Monitoring a Short-Term Dry-to-Wet Soil-Moisture Transition Using GPS Multipath in Tropical Environment

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Abstract

Continuous local observations of surface soil moisture remain limited in humid tropical regions, where optical monitoring is frequently interrupted by cloud cover. This study evaluates whether an operational Continuously Operating Reference Station can resolve a short dry-to-wet transition using Global Navigation Satellite System Interferometric Reflectometry. GPS L2C signal-to-noise ratio observations from the CPLU station in North Padang Lawas, North Sumatra, were processed at elevation angles of 10°–25° and azimuths of 0°–180°. Direct-signal trends were removed, accepted multipath arcs were screened using Lomb–Scargle peak criteria, and track-specific phase changes were transformed to a consistently scaled daily relative volumetric water content series. A stable dry interval identified from SMAP supplied the lower relative baseline, while September 2025 was retained as the focused transition month. GNSS-IR-derived relative volumetric water content (VWC-GNSSIR) increased from 0.070 m³/m³ at the beginning of September to 0.290 m³/m³ near month-end. The monthly mean was 0.179 m³/m³, and local rainfall totaled 135.6 mm across 17 rainy days. Across six cloud-free Sentinel-2 observations from the broader season, original NDVI showed a strong descriptive association with VWC-GNSSIR ($r = 0.871$), whereas a three-month moving composite produced a weaker relationship (r approximately 0.390). The results demonstrate that CORS-based GNSS-IR can retain short-term tropical soil-moisture dynamics that are substantially smoothed in temporally aggregated optical products.

Keywords: GNSS-IR, CORS, soil-moisture dynamics, Sentinel-2 NDVI, tropical hydrology

Evaluating Spectral Consistency of Fe-Related Wavelength Ranges between EO-1 Hyperion and Field Spectrometer Data in the Kulon Progo Iron Sand Deposit

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Abstract

Iron sand deposits contain Fe-bearing oxide minerals with characteristic reflectance features, but field spectrometer and hyperspectral image measurements of these features do not always agree, owing to differences in sensor characteristics, observation scale, and surface conditions. This study evaluates the spectral consistency between ASD FieldSpec and EO-1 Hyperion reflectance over the Kulon Progo iron sand deposit, and examines how spectral processing and spatial representation affect that consistency. Fifteen Hyperion bands were selected on physical grounds, eight within 480-560 nm and seven within 850-950 nm, and compared with resampled ASD spectra at 35 points with paired laboratory total-Fe data, using Pearson correlation (r) and RMSE, under raw, Savitzky-Golay smoothed, and continuum-removed spectra, and across four spatial extraction windows (1x1 to 7x7 pixels). The 850-950 nm range showed markedly stronger agreement than 480-560 nm (raw mean $r = 0.573$ versus -0.037). Smoothing raised the 850-950 nm correlation to $r = 0.601$; the pattern suggests that high-frequency noise in the Hyperion spectra may contribute to part of the disagreement, though the improvement did not reach conventional statistical significance (Hotelling-Williams test, $p > 0.05$). Continuum removal did not improve cross-sensor agreement, and correlation in the 850-950 nm range increased with window size ($r = 0.614$ at 1x1 to $r = 0.693$ at 7x7) without a corresponding change in RMSE. These results show that physical relevance alone does not guarantee cross-sensor consistency, and that band selection for Fe detection with hyperspectral imagery should also consider sensor-related spectral variation and observation scale.

Keywords: iron sand, spectral reflectance, EO-1 Hyperion, ASD FieldSpec, hyperspectral remote sensing

Glycolipid Biosurfactants for Enhanced Oil Recovery in High-Wax Crude Oil Reservoirs: A Review

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Abstract

High-wax crude oil presents a major challenge to enhanced oil recovery (EOR) because wax precipitation increases oil viscosity and restricts hydrocarbon flow. Although glycolipid biosurfactants have emerged as sustainable alternatives to conventional chemical surfactants, their effectiveness and mechanisms in high-wax crude oil systems remain insufficiently synthesized. This study reviews the application of glycolipid biosurfactants, particularly rhamnolipids and sophorolipids, for EOR in high-wax crude oil reservoirs, with emphasis on interfacial tension reduction, wettability alteration, hydrocarbon mobilization, wax degradation, and stability under reservoir conditions. A narrative literature review was conducted using ScienceDirect, PubMed, and SpringerLink, with the search primarily covering publications from 2015 to 2025. Studies were screened based on their relevance to glycolipid biosurfactants and reported effects on interfacial tension, critical micelle concentration, emulsification, wettability, viscosity, biodegradation, stability, and oil recovery. Fourteen relevant studies were included and comparatively analyzed using descriptive quantitative comparison and qualitative synthesis. The reviewed studies indicate that glycolipid biosurfactants enhance hydrocarbon mobilization through interfacial tension reduction, wettability alteration toward more water-wet conditions, emulsification, and hydrocarbon degradation or dispersion. Sophorolipids demonstrated strong interfacial activity and stability under elevated temperature and salinity, with reported additional oil recovery of up to 27.27% in sandstone core experiments, while rhamnolipid-based systems achieved a reported 15.4% increase in oil recovery. These findings support glycolipid biosurfactants as promising sustainable EOR agents for high-wax reservoirs, while highlighting the need for pilot-scale validation, long-term stability assessment, adsorption studies, and techno-economic evaluation.

Keywords: biosurfactants, rhamnolipid, high-wax crude oil, interfacial tension, wettability alteration

TiO₂ Nanoparticles in Low-Salinity Waterflooding: An Experimental Study on Wettability Alteration and Oil Recovery

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Abstract

Low salinity waterflooding combined with titanium dioxide (TiO₂) nanoparticles has potential to improve microscopic oil displacement through modification of oil–brine and rock–fluid interactions. This study presents a preliminary experimental evaluation of TiO₂-assisted low-salinity waterflooding using Berea sandstone and crude oil from a mature oil field, Indonesia. Synthetic NaCl brines with salinities of 500–32,000 ppm were prepared, while TiO₂ concentrations of 100, 250, and 500 ppm were evaluated. Interfacial tension (IFT) was measured using a spinning-drop tensiometer, wettability was assessed through contact-angle measurements, and selected formulations were subsequently evaluated by coreflooding at 68°C. The measured IFT values ranged approximately from 1.4 to 7.5 mN/m, with 100 ppm TiO₂ producing the lowest IFT under most tested salinity conditions. Contact-angle measurements also showed a shift toward more water-wet conditions, with the largest decrease occurring from approximately 29.5° to 14.5° after adding 100 ppm TiO₂. Coreflooding at 8,000 ppm brine showed that 100 ppm TiO₂ increased the recovery factor from 9.26% to 30.42% ROIP, corresponding to an incremental recovery of 21.16 percentage points. These preliminary results identify 100 ppm TiO₂ as the most favorable tested concentration. Nevertheless, the optimum formulation remains specific to the investigated rock–brine–oil system because nanoparticle stability, retention, and surface charge were not independently measured.

Keywords: low salinity waterflooding, TiO₂ nanoparticles, interfacial tension, wettability alteration, enhanced oil recovery

Evaluation of Immiscible Water Alternating Gas Injection Performance as a Pilot Project Plan Using Integrated Asset Modelling

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Abstract

Integrated evaluation of enhanced oil recovery (EOR) performance in offshore reservoirs requires consideration of surface constraints that can limit well deliverability and field production. Immiscible water alternating gas (IWAG) injection is often assessed using standalone reservoir simulation, which does not explicitly represent interactions among the reservoir, wells, and surface facilities. This study applies an integrated asset modelling (IAM) framework to evaluate IWAG performance under operational constraints and compare it with a reservoir-only simulation. A three-dimensional reservoir model was simulated using both approaches under identical subsurface conditions. The unconstrained reservoir-only case forecast approximately 19% higher cumulative oil over the 30-year evaluation period than the IAM case. Within IAM, sensitivity analyses were performed on injection rate and cycle duration. W2G3 with an 18-month cycle was the best-performing configuration among those tested, producing 162.18 MMSTB of cumulative oil, increasing recovery factor from 13.0% to 16.0%, and adding 34.53 MMSTB of incremental oil. The results show that production forecasts are sensitive to whether well and surface constraints are represented explicitly. For the conditions evaluated, IAM provides a more representative basis for IWAG screening and pilot planning than a reservoir-only model.

Keywords: Enhanced Oil Recovery, Immiscible Water Alternating Gas, Integrated Asset Modelling, Reservoir Simulation, Water–Gas Injection

Development of a Community-Based Anticipatory Action Protocol for Landslide Early Warning Systems

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Abstract

Landslides pose significant risks to communities in Jombang Regency, East Java, particularly under prolonged rainfall. This study developed an operational anticipatory action protocol that integrates an Internet of Things (IoT)-based landslide early warning system with community observations and multi-channel risk communication in Jumok Hamlet, Sambirejo Village. A community-based approach was used through a focus group discussion (FGD) with 30 purposively selected participants, field and geological surveys, protocol development, and qualitative validation by experts and community users. The protocol was structured around community-based early warning principles and translated hazard information into four graduated levels: Normal, Advisory, Watch, and Warning. The resulting protocol combines daily rainfall above 61 mm, three-day cumulative rainfall above 91 mm, ground movement above 2 cm/day, progressive crack widening, and soil saturation as operational indicators. The FGD identified widening ground cracks, prolonged rainfall, increasing soil saturation, unusual ground movement, and standing water during soil cultivation as locally recognized warning signs. Expert validation focused on information flow, operational procedures, and stakeholder coordination; user validation focused on SOP readability and usability. Feedback led to clearer trigger-to-action sequences and simpler, context-specific wording. The protocol has not yet been tested during actual landslide events. It links hazard indicators with predefined communication channels and anticipatory actions, including drainage management, mobilization of vulnerable groups, evacuation preparation, and self-evacuation. The study demonstrates how technological monitoring and locally observed indicators can be combined to translate warnings into coordinated community action.

Keywords: community-based early warning, disaster preparedness, early action, landslide, rainfall thresholds

Resolution Limits of Global Seismic Tomography for Imaging the Flores Back-Arc Thrust: A Tectoglob3D-Based Assessment of the 2026 Mw 7.7 Flores Earthquake

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Abstract

The 15 August 2026 Mw 7.7 Flores earthquake, which occurred at a depth of ~15 km offshore northeast of Nagekeo, provides an important case for investigating active deformation along the Flores Back-Arc Thrust. In this study, we consider the ability and resolution of Tectoglob3D to study the seismic structure related to the earthquake sequence. We focus on the P- and S-wave TX2019slab models of Lu et al. (2019). Tomographic cross-sections to depths of about 750 km are compared with the spatial and depth distribution of earthquake hypocenters. The Vp and Vs models can successfully describe the first-order regional structure of the Sunda–Banda subduction system and its deep velocity anomalies. The tomographic images, however, do not clearly resolve the shallow structures related to the Flores Back-Arc Thrust. Conversely, the distribution of earthquakes shows a clear concentration in the back-arc region, suggesting that active seismic deformation is more evident in the back-arc than along the main subduction zone to the south. Further, tomographic models do not reliably reconstruct earthquakes deeper than approximately 40 km. The results suggest that there is a mismatch in scale/resolution between global tomography and localized structures of earthquakes. Therefore, the current tomographic presentation needs more adjustment to be applied for local-scale research. Earthquake relocation should be performed to improve hypocenter accuracy, and then adaptive-grid local earthquake tomography should be performed with the mesh resolution optimized according to the seismic-ray density. This approach should improve the imaging of shallow and localized Vp–Vs heterogeneities and better constrain the three-dimensional structure of the Flores Back-Arc Thrust.

Keywords: Flores earthquake, Tectoglob3D, TX2019slab-P-S, seismic tomography

Landslide Susceptibility Mapping Using GIS-Based Analytical Hierarchy Process in Pejawaran District, Banjarnegara

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Abstract

Landslide susceptibility mapping is an important tool to identify relatively unstable zones and to facilitate disaster mitigation and land-use planning. The objective of this study is to assess the landslide susceptibility in the Pejawaran District, Banjarnegara, Central Java, Indonesia using GIS-based Analytical Hierarchy Process (AHP). Six conditioning factors were integrated: distance to road, normalized difference vegetation index (NDVI), distance to stream, lithology, elevation and slope. Pairwise comparison was used to assess the relative importance of these factors. The following weights were obtained: distance to road (28%), NDVI (22%), distance to stream (17%), lithology (14%), elevation (10%), and slope (9%). The final map of landslide susceptibility was created by combining the weighted thematic layers in a GIS environment. The study area of 54.02 km² was classified into five susceptibility levels namely very low (8%), low (19%), moderate (28%), high (28%) and very high (16%). Areas of high to very high susceptibility are mainly concentrated in the central, northern and eastern parts of the study area, while the western and southwestern sectors generally present lower susceptibility. The spatial distribution of the landslide inventory is well matching with the moderate to high susceptibility zones. These results indicate that the GIS-AHP approach provides a practical preliminary framework for identifying landslide-prone areas in Pejawaran District.

Keywords: Analytical Hierarchy Process, GIS, landslide susceptibility, Pejawaran, Banjarnegara

Leveraging Overture Maps for Micro-Level Road Network Connectivity Assessment: A Comparative Analysis across Urban, Suburban, and Rural Areas

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Abstract

Road-network connectivity is an important component of spatial structure, but road density does not necessarily reflect network topology. This study assesses road-network connectivity across urban, suburban, and rural contexts using Overture Maps and graph-theoretic indices, and examines its relationship with population and built-environment density. Three areas in Yogyakarta, Indonesia, were selected: Gondokusuman as urban, Wedomartani as suburban, and Girisubo as rural area. Overture Maps Roads Transportation data were used to construct road networks from segments and connectors, while building data, BPS population data, and Ina-Geoportal boundaries were used to calculate density indicators. Connectivity was evaluated using the Beta (β), Alpha (α), and Gamma (γ) indices. To provide a broader interpretation of network characteristics, those parameters were examined and compared. These findings indicate that higher road and settlement density does not necessarily correspond to higher topological connectivity.

Keywords: road connectivity, road density, overture maps, settlement density

Track: Tourism Management



AI-Generated Visual Authenticity and Perceived Justice Drive Tourist Patronage Intentions

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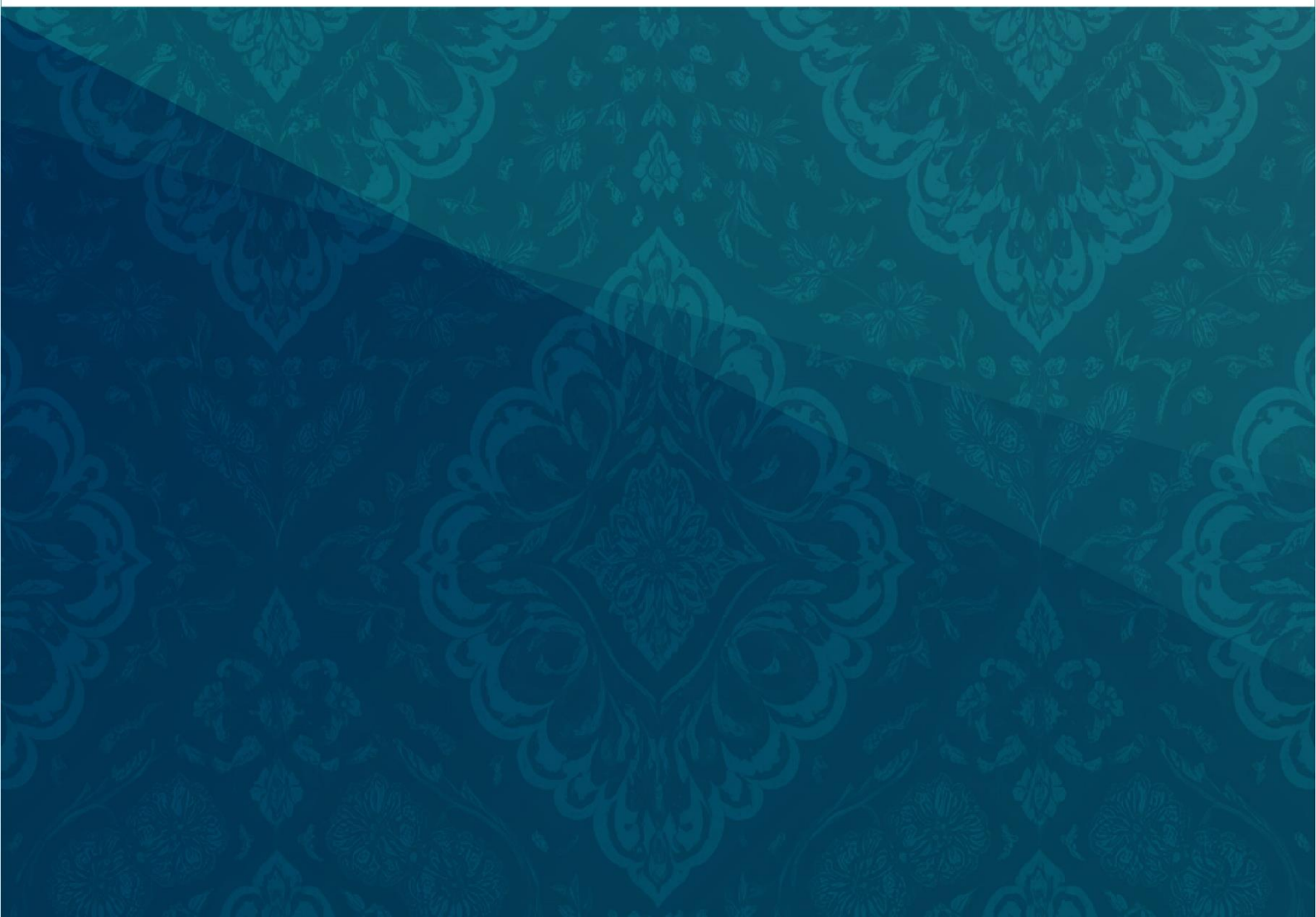
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Abstract

Abstract Artificial intelligence (AI) has transformed destination marketing by enabling the creation of visually appealing promotional content. While AI-generated visual content offers new opportunities for tourism promotion, concerns regarding its perceived authenticity and fairness may influence tourists' behavioral intentions. This study examines the effects of perceived authenticity of AI-generated visual content and perceived justice on tourist patronage intention toward Bali as a tourism destination. A quantitative explanatory research design was employed using a cross-sectional survey of 130 valid respondents who had viewed AI-generated tourism visuals of Bali. Data were collected through an online questionnaire and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results show that perceived authenticity of AI-generated visual content has a positive and significant effect on tourist patronage intention ($\beta = 0.299$, $p = 0.002$). Perceived justice also has a positive and significant effect on tourist patronage intention and demonstrates a stronger effect ($\beta = 0.611$, $p < 0.001$). The findings indicate that tourists' patronage intentions are shaped by both the perceived authenticity of AI-generated destination visuals and perceptions of fairness in destination management. The study contributes to the emerging literature on AI-enabled tourism marketing by integrating visual authenticity and perceived justice into a single framework and provides practical implications for destination marketing organizations to use AI-generated visual content while maintaining credible communication and responsible destination management. Keywords: AI-generated visual content, Perceived authenticity, Perceived justice, Tourist patronage intention, Destination marketing.

Keywords: AI-generated visual content, Perceived authenticity, Perceived justice, Tourist patronage intention, Destination marketing.

Track: International Relations



Understanding the Pre-partnership Stage in Subnational International Cooperation: Evidence from Yogyakarta–Gyeongsangbuk-do and Kedah–Fujian

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Abstract

The growth of Decentralized Development Cooperation (DDC) has encouraged local governments to engage more actively in international cooperation. However, existing Para diplomacy literature has primarily focused on the governance and implementation of established partnerships, while the processes preceding partnership formation remain underexplored. This article examines the pre-partnership stage in subnational international cooperation through a comparative analysis of the Yogyakarta–Gyeongsangbuk-do and Kedah–Fujian partnerships. The study employs a qualitative comparative case study based on in-depth interviews and document analysis. The findings identify three interrelated processes in partnership formation: defining local development needs, evaluating partner suitability based on strategic fit and resource complementarity, and coordinating institutional actors before cooperation is formalized. More importantly, the cases reveal different institutional pathways through which these processes occur. In Yogyakarta, an existing sister-province relationship provides an institutional platform, but specific cooperation programs emerge through negotiation among local governments, communities, and an intermediary organization. In Kedah, partner identification is more strongly mediated by federal technical agencies, which connect sectoral development priorities with prospective international partners and institutional validation. These findings show that partner selection in paradiplomacy is not an automatic consequence of existing international ties or opportunities but a deliberative institutional process whose organization varies across governance configurations.

Keywords: paradiplomacy; pre-partnership stage; regional international cooperation; local governments; comparative case studies

Quantum Diplomacy Transformation Framework: A New Analytical Model for Diplomacy in the Era of Disruptive Technology

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Abstract

The rapid convergence of artificial intelligence, big data, and global digital platforms has fundamentally altered the practice of diplomacy, shifting it from closed, state-centric negotiation toward real-time, data-driven, and algorithmically mediated interaction. Existing international relations theory, built around linear and deterministic assumptions about state behaviour, increasingly struggles to explain the non-linear, probabilistic dynamics of contemporary diplomatic practice. This paper introduces quantum diplomacy as an analytical metaphor - borrowed from quantum physics rather than asserting any literal quantum-mechanical process - and develops the Quantum Diplomacy Transformation Framework (QDTF) as a new conceptual model for analysing diplomacy in the digital era. The study employs a qualitative conceptual research design based on systematic document analysis, synthesising digital power theory, complex adaptive systems theory, and algorithmic governance theory drawn from peer-reviewed literature and policy documents published between 2011 and 2025. The analysis identifies four defining characteristics of quantum diplomacy - real-time decision-making, non-linear causality, algorithmic mediation, and process invisibility - integrated into a five-layer QDTF model linking technological infrastructure, hybrid actors, data-driven mechanisms, and geopolitical outcomes. Unlike earlier digital diplomacy scholarship, which centres on the tools diplomats use, QDTF theorises the causal logic connecting these tools to diplomatic outcomes. Applied illustratively to Indonesia, the framework shows a paradoxical position of large digital potential constrained by regulatory and infrastructural gaps. The paper contributes a new theoretical vocabulary, five testable propositions, and an analytical foundation for future empirical testing and evidence-based policy design.

Keywords: quantum diplomacy, digital diplomacy, artificial intelligence, QDTF, international relations

Paradiplomatic Information Infrastructure: Towards Strengthening Local–Global Collaborative Networks for Local Governments in Indonesia

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Abstract

The development of paradiplomacy has encouraged local governments in various countries to become more active in building international relations to support regional development. Nevertheless, regional international cooperation depends not only on a global network, but also on local governments' ability to identify, evaluate, and select partners that align with regional development needs. The paradiplomacy literature has focused more on the motivation, form, and results of international cooperation by local governments, while partner finding and matching remain relatively neglected. This article aims to develop the concept of Paradiplomatic Information Infrastructure (PII) as a foundation for strengthening local–global collaborative networks for local governments. The study uses a conceptual design based on literature and document analysis of paradiplomacy, transnational city networks, intercity learning, and digital governance. The synthesis shows that international networks serve as spaces for learning and knowledge exchange, while digital governance can expand local governments' access to information on competencies, track records, and cooperation opportunities with global actors. This article argues that PII can strengthen local government partner matching and reduce reliance on personal relationships and informal mechanisms in forming more effective, inclusive, and sustainable international cooperation.

Keywords: paradiplomacy; information infrastructure, transnational city networks, e-government, Partner Matching

From Cultural Capital to Global Influence: A Conversion-Chain Framework for Local Wisdom in Indonesian Cultural Diplomacy

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Abstract

Indonesia's local wisdom is widely recognized as a marker of cultural identity and a resource for cultural diplomacy, yet existing scholarship largely stops at asserting this potential without explaining, in operational terms, how local values convert into national image. This study proposes a tiered conversion-chain framework—linking cultural capital, diplomatic mechanisms, and global reputation—to analyze how local wisdom is constructed into Indonesia's cultural diplomacy narrative and to assess its coherence with nation branding efforts. The study employs a descriptive qualitative design with library research techniques, drawing on policy documents and official ministerial publications, reports of international organizations, indexed journal articles, and credible media coverage from 2020–2025. Data were analyzed using the interactive model of Miles, Huberman, and Saldaña, comprising deductive coding, matrix display, and conclusion drawing verified through source triangulation. Three findings emerge. First, a systematic gap separates the richness of Indonesia's cultural capital from the depth of its utilization: performing arts, cuisine, and crafts dominate external representation, while social values such as gotong royong (mutual cooperation) and musyawarah (deliberative consensus)—Indonesia's clearest comparative advantage—remain least narrated. Second, depth of audience participation proves more decisive than breadth of reach, so prevailing exposure-based indicators systematically overvalue large-scale, short-duration programmes. Third, authenticity is the principal source of attraction and cannot be manufactured through planning; the state is therefore better positioned as an enabler than as a producer of meaning. Together, these findings locate Indonesia's difficulty not in the stock of cultural capital but at the junctures where that capital fails to convert.

Keywords: cultural diplomacy; local wisdom; nation branding soft power; cultural capital; Indonesia

Building Cyber Confidence: ASEAN's Defence Diplomacy through ADMM-Plus

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Abstract

Digital transformation in Southeast Asia has enhanced regional connectivity while creating new vulnerabilities to complex, cross-border cyber threats. This situation has prompted ASEAN to develop various cybersecurity cooperation mechanisms, including those within the framework of the ASEAN Defence Ministers' Meeting Plus (ADMM-Plus). This study analyzes how the ADMM-Plus, specifically the Experts' Working Group on Cyber Security (EWG-CS), has addressed regional cyber threats between 2017 and 2025 through the lens of Confidence-Building Measures (CBMs). Employing a qualitative case study approach, the study analyzes secondary data from official ASEAN and ADMM-Plus documents, policy reports, and academic literature, complemented by a semi-structured interview with an official from Indonesia's National Cyber and Crypto Agency (BSSN). The findings show that the EWG-CS operationalizes CBM functions through sustained dialogue, information and knowledge exchange, capacity building, and institutional interaction among ASEAN Member States and Plus Countries. These practices have generated institutional mechanisms and collaborative outputs across three co-chairmanship cycles, including points-of-contact arrangements, technical personnel networking, cyber terminology standardization, cyber exercises, training programs, and the Cyber Security Framework. The BSSN interview further indicates that international cybersecurity cooperation contributes to Indonesia's national cybersecurity by facilitating knowledge transfer, strengthening capacity, expanding institutional networks, and supporting cyber resilience. Rather than directly preventing or responding to cyberattacks, the EWG-CS functions as a defence diplomacy platform that reduces uncertainty, builds trust, and facilitates sustained regional cybersecurity cooperation.

Keywords: ADMM-Plus; Experts' Working Group on Cyber Security; confidence-building measures; defence diplomacy; cyber security.

Track: Industrial Engineering



A Hybrid TOPSIS–PIV Method with Compromise Weighting of SWARA and MEREC for Supplier Selection in the Indonesian Leather Industry

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Abstract

Supplier selection constitutes a critical decision in the leather industry, as supplier performance directly influences material quality, production continuity, cost, and product competitiveness. Nevertheless, supplier evaluation in this sector involves multiple and often conflicting criteria, which complicates the effort to obtain reliable rankings through a single weighting or ranking method. Existing approaches tend to rely either on subjective expert judgments or on objective data characteristics, each of which may not fully capture the complexity inherent in supplier selection. This study addresses this gap by offering an integrated supplier selection framework that combines subjective and objective weighting with complementary ranking techniques. The proposed framework integrates the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) and Proximity Indexed Value (PIV) methods with a compromise weighting scheme derived from the Stepwise Weight Assessment Ratio Analysis (SWARA) and the Method based on the Removal Effects of Criteria (MEREC). The Delphi method is used to identify and validate the supplier evaluation criteria. A case study conducted in an Indonesian leather manufacturing company demonstrates the applicability of the proposed framework. The findings indicate that the hybrid approach yields consistent supplier rankings and facilitates more robust decision-making by integrating expert judgments with objective data characteristics. The proposed framework thus offers a practical and reliable decision-support tool for supplier selection in the leather industry.

Keywords: Supplier selection, MEREC, SWARA, TOPSIS, PIV

Preparation and Characterization of Red Seaweed (*Eucheuma cottonii*)-Based Bioplastic Reinforced with Polyvinyl Acetate (PVA)

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Abstract

Conventional petrochemical-based plastic waste has become a serious environmental problem due to its resistance to decomposition and suboptimal management. This study aims to produce and characterize carrageenan-based bioplastic from red algae (*Eucheuma cottonii*) by examining the effects of varying concentrations of sorbitol as a plasticizer and polyvinyl acetate (PVAc) as a reinforcement on mechanical properties, water resistance, and biodegradability. The study was conducted in several stages, first involving the extraction of red algae with 0.1N NaOH. The extraction product was then mixed with a plasticizer, reinforcement, and emulsifier to form a homogeneous mixture. After forming a homogeneous emulsion, the mixture was molded and dried in an oven at 60°C for 12 hours. The results showed that increasing the sorbitol concentration decreased tensile strength but increased elongation and accelerated biodegradation. Conversely, the addition of PVAc increases tensile strength and water resistance, but reduces elongation and slows degradation. The resulting carrageenan-based bioplastic has the potential to serve as an environmentally friendly alternative with properties that can be tailored for sustainable applications

Keywords: biodegradable, bioplastic, carrageenan, reinforced, surfactant

Track: Business Administration



Developing a Sustainable Performance Measurement Model for Food and Beverage MSMEs: An Exploratory Factor Analysis Approach

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Abstract

This study develops a preliminary sustainable performance measurement model for Food and Beverage (F&B) Micro, Small, and Medium Enterprises (MSMEs) by identifying context-specific sustainability dimensions through an exploratory quantitative approach. Existing sustainability measurement frameworks are predominantly designed for large corporations and fail to capture the operational realities of micro-enterprises characterized by informality, limited resources, and high dependence on communal resources. A survey of 85 F&B MSME owners and managers was conducted from March to June 2026 using a structured five-point Likert questionnaire comprising 17 initial indicators derived from the Triple Bottom Line and Natural-Resource-Based View frameworks. The questionnaire was distributed electronically via Google Forms to participants attending training programs organized by the Cooperatives and MSMEs Office of Yogyakarta. Purposive sampling was applied with eligibility criteria requiring businesses to have operated for at least three years, participated in official training, and implemented basic waste management practices. Data were analyzed using Exploratory Factor Analysis with Principal Axis Factoring extraction and Varimax rotation. The data were suitable for factor analysis (KMO = 0.768; Bartlett's Test, $p < 0.001$). Four factors with eigenvalues greater than one were retained, collectively explaining 66.98% of the total variance, representing economic performance (4 indicators), environmental performance (5 indicators), social performance (5 indicators), and digital adaptation and innovation (3 indicators). Cronbach's alpha values ranged from 0.833 to 0.882, indicating satisfactory internal consistency. The findings suggest that sustainable performance in F&B MSMEs is multidimensional and extends beyond conventional financial indicators by incorporating environmental stewardship, community-oriented social responsibility, and digital capabilities. Theoretically, this study extends the Triple Bottom Line framework by identifying digital adaptation as an empirically distinct factor and highlights the role of local cultural values in shaping social performance. Practically, the proposed framework offers a contextual assessment tool for business operators, incubators, and government agencies to monitor sustainability contributions towards the 2030 Sustainable Development Goals. However, the proposed model remains exploratory and requires further validation using larger samples and Confirmatory Factor Analysis before broader application.

Keywords: sustainable performance measurement, food and beverage MSMEs, exploratory factor analysis, digital adaptation; sustainability assessment

Validating Dynamic Digital Capability Measures in Creative Youth Communities: A Partial Least Squares Study

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Abstract

Digital technologies increasingly shape how creative youth communities coordinate activities, exchange knowledge, and pursue opportunities. However, Dynamic Digital Capability (DDC) measures have mainly been examined in formal organizational settings, leaving their applicability to community-based contexts uncertain. This study evaluates adapted measures of Digital Environment, Community-Based Entrepreneurial Orientation, Digital Learning Capability, Digital Literacy, and DDC and examines their proposed direct relationships. Data were collected from 170 individual representatives of 42 creative youth communities in Yogyakarta and analyzed using Partial Least Squares Structural Equation Modeling with 5,000 bootstrap subsamples. Internal consistency and convergent validity were satisfactory. However, the Heterotrait–Monotrait ratio between Digital Learning Capability and DDC was 0.903, indicating insufficient discriminant validity under the 0.90 criterion. Digital Learning Capability showed a significant large effect on DDC ($\beta = 0.585$, $p < 0.001$, $f^2 = 0.540$), while Digital Literacy showed a significant small effect ($\beta = 0.270$, $p < 0.001$, $f^2 = 0.108$). Digital Environment and Community-Based Entrepreneurial Orientation had no significant direct effects. The model explained 68.6% of DDC variance ($R^2 = 0.686$; SRMR = 0.080). The findings provide preliminary nomological evidence while indicating the need for further measurement refinement and community-level validation.

Keywords: Community-based entrepreneurial orientation; Digital environment; Digital learning capability; Digital literacy; Dynamic digital capability.

The Effect of ESG Disclosure on Company Performance and Value: The Mediating Role of Intellectual Capital Efficiency in Indonesian Banking

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Abstract

This study examines the effect of Environmental, Social, and Governance (ESG) disclosure on corporate performance and firm value and investigates whether intellectual capital efficiency mediates these relationships in Indonesian banking companies. The study uses 20 listed banks observed over five years (2020–2025), resulting in 100 firm-year observations. Panel regression with a Fixed Effect Model and mediation analysis using the Value Added Intellectual Coefficient (VAIC) are employed. ESG disclosure is measured using 30 indicators based on the 2016 Global Reporting Initiative Standards, while corporate performance and firm value are measured by Return on Assets (ROA) and Tobin's Q, respectively. The results show that ESG disclosure has no significant effect on ROA but has a significant negative effect on Tobin's Q and VAIC. VAIC has no significant effect on ROA or Tobin's Q and does not mediate the relationship between ESG disclosure and these outcomes. These findings suggest that ESG disclosure does not automatically create economic value, particularly in the short term, when implementation and reporting costs may exceed operational benefits.

Keywords: ESG Disclosure, Corporate Performance, Firm Value, Intellectual Capital

Turning Waste into Responsibility: Stakeholder Mapping for Sustainable Packaging Extended Producer Responsibility in Yogyakarta

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Abstract

Packaging waste has become an increasingly urgent urban environmental problem. However, the implementation of Extended Producer Responsibility (EPR) remains constrained by unclear stakeholder roles, weak coordination, and unequal power among stakeholders. Research on stakeholder roles in local sustainable packaging governance also remains limited. This study examines stakeholder power, legitimacy, and urgency in EPR implementation. A qualitative case study was conducted in Yogyakarta from April to August 2026. Data were collected through semi-structured interviews with seven informants representing government institutions and business that had or had not adopted sustainable packaging, supported by document review, and field observations. The data were analysed using thematic coding, stakeholder mapping, and triangulation. The findings identify government institution and businesses are key stakeholders, while technical institutions facilitate the transition of micro, small, and medium-sized enterprises toward sustainable packaging. Communities have legitimate and urgent environmental interests but limited formal authority. Stakeholder salience is dynamic and context-dependent. Effective EPR implementation therefore requires clear roles, stronger coordination, business support, community participation, transparent communication, and periodic evaluation.

Keywords: Extended Producer Responsibility, Sustainable Packaging, Stakeholder Mapping, Stakeholder Salience, Packaging Waste Governance

Understanding Cultural Identity Formation through Heritage Awareness and Cultural Tendency among Generation Z

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Abstract

Cultural heritage tourism provides opportunities for younger generations to engage with cultural values, yet the psychological process through which cultural awareness develops into cultural identity remains insufficiently understood. This study examines the relationships among Cultural Heritage Awareness, Cultural Tendency, and Cultural Identity and investigates the mediating role of Cultural Tendency among Generation Z tourists. A quantitative explanatory study was conducted using a cross-sectional survey of 119 Generation Z tourists who had visited Vredenburg Fort, Yogyakarta. Data were collected using a five-point Likert-scale questionnaire and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS. The results show that Cultural Heritage Awareness significantly affects Cultural Identity ($\beta = 0.299$; $p = 0.011$) and Cultural Tendency ($\beta = 0.833$; $p < 0.000$). Cultural Tendency also significantly affects Cultural Identity ($\beta = 0.641$; $p < 0.000$). Furthermore, Cultural Tendency significantly mediates the relationship between Cultural Heritage Awareness and Cultural Identity ($\beta = 0.534$; $p < 0.000$), indicating partial mediation. These findings suggest that cultural identity formation is a sequential psychological process in which awareness of cultural heritage develops into Cultural Tendency and ultimately contributes to cultural identity. The study extends the application of Social Identity Theory in heritage tourism and highlights the importance of meaningful, participatory, and reflective heritage experiences for Generation Z.

Keywords: Cultural Heritage Awareness, Cultural Tendency, Cultural Identity, Social Identity Theory.

Understanding the Work Stress–Performance Link: The Mediating Role of Quiet Quitting among Indonesian Generation Z Employees

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Abstract

Quiet quitting has become an increasingly visible feature of the post-pandemic workplace, particularly within Generation Z the cohort that now makes up the largest share of Indonesia's labour force. Work stress has long been identified as an antecedent of this behaviour, yet its direct and mediated influence on performance is rarely estimated simultaneously within a single model, and evidence drawn from Indonesian Gen Z employees beyond specific sectors remains limited. Grounded in the Job Demands–Resources (JD-R) perspective, this research asks how strongly work stress shapes both quiet quitting and employee performance, and whether quiet quitting transmits the stress–performance relationship. An explanatory quantitative approach was adopted; responses were gathered through an online survey distributed purposively to 400 Gen Z workers across Indonesia. Measurement and structural models were estimated using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS. Results indicate that higher work stress raises quiet quitting ($\beta=0,727$), that quiet quitting lowers performance ($\beta=-0,225$), and that work stress depresses performance directly ($\beta=-0,610$). The indirect path running from work stress to performance through quiet quitting is likewise negative and statistically significant ($\beta=-0,163$). Taken together, the evidence positions quiet quitting as the behavioural route through which stress erodes performance, contributes to the JD-R literature, and points to concrete stress-management priorities for organisations employing Indonesia's Gen Z workforce.

Keywords: Quiet Quitting; Work Stress; Performance; Job Demands-Resources; Generation Z

Firm Size as Moderator in the Innovation, Capital Structure and Profitability Relationship

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Abstract

Innovation is regarded under the Resource-Based View (RBV) as a strategic, firm-specific resource that can create sustainable competitive advantage. Because innovation requires substantial investment and financing, it may affect both capital structure and profitability; however, this relationship remains relatively underexplored in Indonesia, particularly regarding firm size as a moderator. This exploratory study examines the associations of innovation with capital structure and profitability and the moderating role of firm size, using secondary data from manufacturing companies listed on the Indonesia Stock Exchange (IDX) during 2020–2025. Only 10 of 165 firms had complete audited reports and variable data, producing 60 firm-year observations. Innovation was proxied by R&D intensity, capital structure by debt-to-equity ratio (DER), profitability by return on equity (ROE), and firm size by the natural logarithm of total assets. WarpPLS was used to estimate the structural relationships. Innovation was positively associated with capital structure ($\beta = 0.395$, $p < 0.001$), while its association with profitability was negative but statistically insignificant ($\beta = -0.109$, $p = 0.191$). Capital structure was positively associated with profitability ($\beta = 0.787$, $p < 0.001$), although DER and ROE share equity as a denominator. The interaction terms for innovation, firm size and capital structure were not statistically significant. Because the sample is small and the model-fit indices SPR and RSCR fall below their thresholds, the findings are preliminary associations, not causal evidence.

Keywords: : innovatio, capital structure, firm size, profitability, R&D intensity.

How AI Adoption Transforms Technology Acceptance into Online Purchase Behavior: An Integrated UTAUT–Technology Acceptance Model

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Abstract

Artificial intelligence (AI) is increasingly integrated into digital commerce through intelligent services that support consumer purchasing. However, limited empirical evidence explains how technology acceptance translates into AI adoption and subsequent online purchase behavior, particularly in digital MSMEs. This study examines the relationships between effort expectancy, performance expectancy, AI adoption, and online purchase behavior by positioning AI adoption as a behavioral link between technology acceptance and purchasing outcomes. A quantitative explanatory study was conducted using a cross-sectional survey of 126 consumers selected through purposive sampling. Respondents had used an AI-based service or feature, interacted with a digital MSME, and conducted an online purchase. Data were collected using a five-point Likert-scale questionnaire and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results show that performance expectancy significantly and positively affects AI adoption ($\beta = 0.657$, $p < 0.001$), whereas effort expectancy does not significantly affect AI adoption ($\beta = 0.101$, $p = 0.123$). Effort expectancy significantly and positively affects online purchase behavior ($\beta = 0.265$, $p < 0.001$), as does performance expectancy ($\beta = 0.168$, $p = 0.026$). AI adoption also significantly and positively affects online purchase behavior ($\beta = 0.317$, $p < 0.001$). These findings indicate that perceived performance benefits are more important for AI adoption, while both performance and ease of use contribute to online purchasing. The study contributes by positioning AI adoption as a behavioral mechanism connecting technology acceptance with online purchase behavior and offers practical implications for developing AI-enabled digital commerce services.

Keywords: Artificial Intelligence Adoption; UTAUT; Technology Acceptance Model; Performance Expectancy; Online Purchase Behavior

Track: Communication Studies



Repositioning Citizen Journalism: A Case Study in the Special Region of Yogyakarta

| Arika Bagus Perdana¹, Adi Soeprapto¹, Susilastuti Dwi Nugraha Jati¹

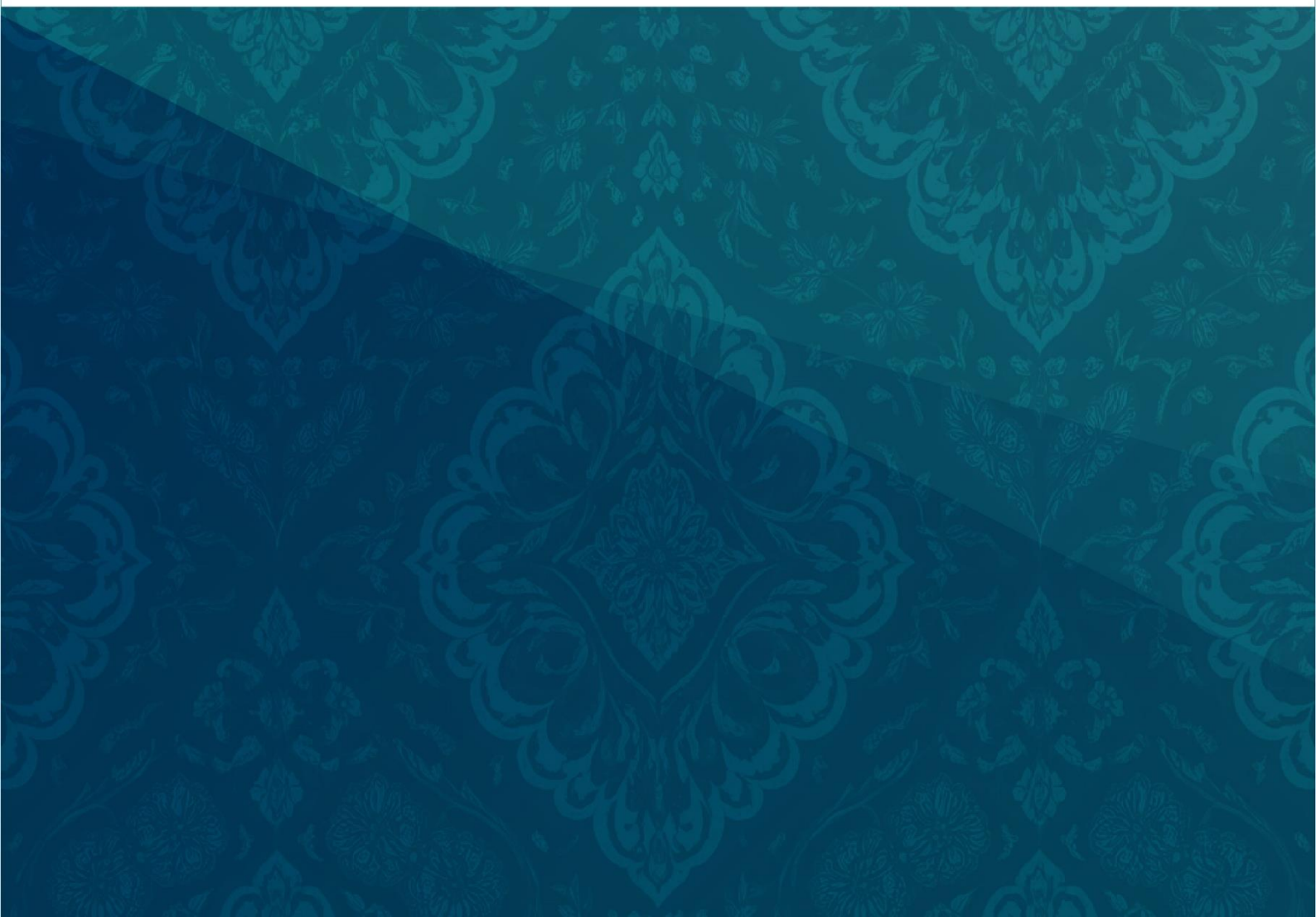
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Abstract

The information disruption of the Society 5.0 era has fundamentally transformed how people access, produce, and distribute information. Mainstream media no longer exclusively control the flow of information, as social media enables citizens to participate directly in the production and dissemination of news. This study examines the development of citizen journalism, particularly independent social media-based accounts in the Special Region of Yogyakarta, and explores how journalists and editorial leaders perceive their role within the contemporary media ecosystem. The study's novelty lies in distinguishing the position of independent citizen journalism from mainstream media and proposing a collaborative model based on the perspectives of information users, journalists, and editorial leaders. A qualitative descriptive approach was employed through open-ended questionnaires involving members of the public and Focus Group Discussions (FGDs) with senior journalists and editorial leaders representing mainstream media in Yogyakarta. The findings indicate that citizen journalism has developed into an increasingly influential source of public information and has gained recognition from formal institutions. Its strengths include speed, proximity to communities, flexibility, and public engagement, whereas mainstream media retain advantages in professional standards, verification, and credibility. The study therefore proposes a complementary collaboration model involving information and reporting cooperation, journalistic capacity building, structured content distribution through attributed reposting, and commercial content production. This model repositions independent citizen journalism from merely a source of user-generated content to a strategic partner in the public information ecosystem while preserving the verification standards and professional values of mainstream journalism.

Keywords: citizen journalism, social media, collaboration

Track: Energy



Cost Estimation of Coal Utilisation Technology for Coal Bed Methane (CBM) Using H₂O₂ Treatment

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Abstract

Indonesia holds 31.95 billion tonnes of coal reserves dominated by low-rank grades, while the 2060 net zero emission commitment demands reduced conventional coal use. Hydrogen peroxide-assisted coal bed methane (CBM) technology converts coal into methane within the seam without lifting it to the surface. Its effectiveness is proven at laboratory scale, yet no operating cost estimate exists. This study develops one and identifies the cost-determining components. A bottom-up deterministic model was built from secondary data for a notional installation processing one tonne of low-rank coal per year in the South Sumatra Basin, Indonesia, at 2025–2026 price levels in rupiah. Capital expenditure was excluded as the technology has never been deployed commercially. Reagent requirements followed a published solid-to-liquid ratio of 17 g lignite per 4 L of 0.3 per cent H₂O₂ solution, giving 235,294.12 L per tonne. Two unit bases were held separate: annually fixed and volume-proportional. Results give a total of IDR 11,126,119,382, comprising IDR 8,345,589,114 in fixed cost (75.01 per cent) and IDR 2,780,530,269 per tonne in solution cost (24.99 per cent). Theoretically, hydrogen peroxide contributes only 0.165 per cent of total cost while diluent water contributes 97.32 per cent of solution cost, contradicting the assumption that oxidant efficiency governs MECBM economics; the governing parameter is geometric rather than chemical. Practically, the study redirects optimisation effort towards the solid-to-liquid ratio and the choice of diluent medium.

Keywords: coalbed methane, hydrogen peroxide, cost estimation, low-rank coal, solid-to-liquid ratio

Track: Economics



Socioeconomic Determinants of Digital Financial Inclusion in Indonesia

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Abstract

This study examines the socioeconomic and digital connectivity determinants of digital financial inclusion in Indonesia. Using individual-level data from the Global Findex 2025, digital financial inclusion is defined as ownership of a digitally enabled financial account. This measure captures whether an individual has a mobile money account or a financial institution account used to make digital payments through a card or mobile phone. The study applies weighted logistic regression and reports marginal effects to estimate how gender, age, education, income, employment status, urban-rural residence, internet use, mobile phone ownership, and smartphone use are associated with digital financial inclusion. The results found that Education (secondary: 9.9pp; tertiary: 18.0pp), income (highest quintile: 20.6pp), and employment (11.6pp) significantly boost digital inclusion. Critically, internet use predominantly benefits women (18.6pp) while smartphone and mobile ownership benefit men (22.0pp and 23.6pp respectively), revealing gendered technology pathways. Urban residence becomes insignificant after controlling for these factors, indicating that infrastructure alone is insufficient. These findings suggest that digital financial inclusion in Indonesia is shaped not only by access to digital infrastructure, but also by socioeconomic resources, labor market participation, digital connectivity, and gendered patterns of technology use.,

Keywords: digital financial inclusion; socioeconomic determinants; digital connectivity; Global Findex 2025; logistic regression.

Empirical Mapping of Investor Attention Across LQ45 Stocks on the Indonesia Stock Exchange, 2022–2025

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Abstract

Digitalization has changed how retail investors discover and evaluate listed companies, making online search activity a potentially observable component of investor attention. This study maps the level, volatility, and temporal dynamics of investor attention across stocks that appeared in the LQ45 index during 2022–2025. Using a longitudinal quantitative-descriptive design, the study analyzes 68 unique securities observed over 16 quarters, yielding 1,088 stock-quarter observations. Quarterly Google Trends Index (GTI) is used as a search-based proxy for attention. Stocks are ranked by mean GTI and by the standard deviation of quarterly GTI, while annual changes and sectoral patterns are examined descriptively. MIKA (81.53), SIDO (66.22), ARTO (57.07), WIKA (52.13), and BUKA (49.29) have the highest mean attention. Attention volatility is highest for BUKA (25.07), GOTO (16.65), WIKA (15.46), PTBA (14.26), and WSKT (13.39). Aggregate attention declines from 23.58 in 2022 to 19.29 in 2024 and rebounds to 20.72 in 2025. The study confirms that attention is heterogeneous across firms and sectors and varies over time. Its main contribution is a longitudinal descriptive baseline for Indonesian LQ45 stocks that distinguishes persistent attention from episodic attention and clarifies the methodological limits of Google search data. The results provide a basis for future causal tests linking attention with trading activity, returns, and volatility. Keywords: Investor Attention; Google Trends Index; LQ45; Indonesia Stock Exchange; Behavioral Finance; Emerging Markets. JEL Classification: G11, G14, G41, D83, O16

Keywords: Investor Attention; Google Trends Index; LQ45; Indonesia Stock Exchange; Behavioral Finance; Emerging Markets.

Cooperative Empowerment Strategy: Integrating Financial Literacy and Entrepreneurship

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Abstract

Cooperatives occupy a strategic position in strengthening community economies, functioning not merely as commercial entities but also as vehicles through which members' economic capacity is built. Even so, their growth is frequently constrained by limited managerial capability, particularly the administrators' ability to handle finances, expand business activities, innovate, and seize market opportunities. This study examines strategies for empowering cooperatives in Bantul Regency, Indonesia, by integrating financial literacy with entrepreneurial capacity. Using a qualitative design, the research draws on cooperative administrators and local government officials engaged in cooperative development as key informants. Information was gathered through in-depth interviews and supporting documents, then examined using an interactive process of data condensation, display, and conclusion drawing. Findings reveal that empowerment cannot be achieved through capital assistance and administrative supervision alone; it must be grounded in administrators' capacity to manage finances soundly and pursue viable business opportunities. Financial literacy underpins sound planning, accurate record-keeping, cost control, and evidence-based financial decisions, while entrepreneurial capacity enables cooperatives to identify opportunities, innovate, develop products, broaden market reach, and build partnerships. Crucially, the two capacities must develop together: entrepreneurial drive unaccompanied by financial discipline exposes cooperatives to business risk, whereas strong financial management without entrepreneurial orientation tends to produce well-administered but stagnant organizations. Accordingly, empowerment strategies in Bantul should emphasize administrator capacity-building, sustained mentoring, digitalization of cooperative management, development of locally rooted business units, stronger access to financing, and closer collaboration between local government and cooperatives. The study contributes to policy design that positions capacity-building and institutional self-reliance at the center of cooperative empowerment.

Keywords: cooperatives, empowerment, financial literacy, entrepreneurship, self-reliance

The Influence of Financial Technology Adoption and Financial Adaptability on the Financial Performance of MSMEs in Central Java

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Abstract

The MSME sector plays a pivotal role in Indonesia's economic growth but faces structural constraints, including limited digital capabilities and financing barriers. While digital technology adoption is widely viewed as a solution, empirical evidence of its direct impact on financial performance remains inconsistent. Grounded in the integration of the Resource-Based View (RBV), the Technology Acceptance Model (TAM), and Dynamic Capabilities theory as the primary theoretical lenses, this study analyses the joint effects of financial technology adoption (an external resource) and strategic financial agility (an internal capability) on MSME financial performance in Central Java, Indonesia. Employing an explanatory quantitative design, primary data were gathered via structured questionnaires from 200 MSME owners and managers across six regencies in Central Java, selected through purposive sampling. PLS-SEM analysis via Smart PLS 4 demonstrates that fintech adoption ($\beta = 0.489$, $t = 10.395$, $p < 0.001$) and strategic financial agility ($\beta = 0.426$, $t = 8.673$, $p < 0.001$) exert positive and statistically significant impacts on financial performance. Jointly, both variables explain 57.9% of the variance in financial performance ($R^2 = 0.579$), indicating moderate-to-strong predictive power. This study contributes to the literature by demonstrating how aligning external digital payment adoption with internal resource flexibility fosters sustainable financial resilience for small firms in volatile emerging markets.

Keywords: Fintech Adoption, Strategic Financial Agility, Financial Performance, Dynamic Capabilities, MSMEs.

Psychological Biases and Portfolio Decisions: Empirical Study on Gen-Z Stock Investors in Daerah Istimewa Yogyakarta

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Abstract

The rapid growth of Generation Z retail investors in Indonesia's stock market highlights the growing relevance of behavioral finance in explaining investment decision-making. Moving beyond the assumption of full investor rationality, this study examines the effects of herding, overconfidence, anchoring bias, and financial literacy on portfolio decisions among Generation Z stock investors in Yogyakarta (DIY), Indonesia. A quantitative explanatory design was employed, using primary data collected via purposive sampling through a structured questionnaire distributed to active Generation Z retail investors on the Indonesia Stock Exchange, yielding 250 valid responses, analyzed using PLS-SEM via SmartPLS. The results indicate that herding, driven by digital information flows, overconfidence, and anchoring bias significantly and negatively influence portfolio decisions, while financial literacy significantly contributes to more rational and disciplined portfolio decision-making among young investors. These findings contribute to behavioral finance literature in emerging markets and offer practical implications for policymakers, brokerages, and financial educators in designing literacy programs and behaviorally informed digital platforms for Generation Z investors in DIY.

Keywords: Behavioral Finance, Portfolio Decisions, Financial Literacy, Gen-Z Investors, Stock Market

Volatility Risk and Actual Asset Allocation among Retail Investors: Parallel Mediation through Risk Exposure Limitation and Risk Tolerance

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Abstract

Real-time trading platforms expose Indonesian retail investors to rapid price fluctuations, but how perceived volatility reaches implemented portfolios remains unclear. This study tests the association between Volatility Risk (VR) and Actual Asset Allocation (AA) and parallel mediation through Risk Exposure Limitation (RE) and Risk Tolerance (RT). A cross-sectional survey of 200 active Indonesian retail investors was analysed with PLS-SEM. The model explains 56.0% of AA variance. VR is positively associated with RE ($\beta = 0.412$, $p < 0.001$) and AA ($\beta = 0.378$, $p < 0.001$), while RE is positively associated with AA ($\beta = 0.496$, $p < 0.001$). The VR–RE–AA indirect effect is significant ($\beta = 0.204$, bootstrap 95% CI [0.144, 0.265]), indicating complementary partial mediation. The RT-mediated path is unsupported. The conceptual contribution is the distinction between a supported rule-based exposure-control channel and an unsupported preference-based risk-tolerance channel, with implications for suitability assessment, brokerage safeguards, and financial advice.

Keywords: volatility risk, risk exposure limitation, risk tolerance, actual asset allocation, PLS-SEM

Financial Literacy and Sustainability: The Mediating Role of Innovation Capabilities

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Abstract

This study examines the influence of Financial Literacy on Financial Sustainability and Environmental Sustainability in Batik Small and Medium Enterprises (SMEs) in Bantul Regency, Yogyakarta, as well as the mediating role of Innovation. Based on the Resource-Based View (RBV) and Sustainability Theory (Triple Bottom Line), small enterprises face significant challenges in balancing economic profitability with ecological responsibility. A quantitative empirical investigation was conducted using a purposive sample of 100 Batik SME owners/managers. Data were collected via structured questionnaires and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with 5,000 bootstrap resamples. The results indicate that Financial Literacy has a direct positive and significant effect on Innovation Capability, Financial Sustainability, and Environmental Sustainability. Furthermore, Innovation significantly impacts Financial Sustainability and Environmental Sustainability. Mediation testing reveals that Innovation acts as a complementary (partial) mediator in the relationship between Financial Literacy and Financial Sustainability as well as Environmental Sustainability. These findings underscore that enhancing financial capabilities empowers SME managers to adopt eco-friendly production technologies and business model innovations, simultaneously fostering economic resilience and environmental stewardship.

Keywords: Financial Literacy, Innovation Capability, Financial Sustainability, Environmental Sustainability, Batik SMEs.

Track: Agricultural Science



Application Biochar Rice Husk And Humic Acid On Growth Soybean Performance At Coastal Sandy Soils Samas Yogyakarta Indonesia

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Abstract

Coastal sandy soil remains constrained by its low capacity to retain water and essential nutrients, particularly nitrogen, which is highly susceptible to leaching. This study aimed to evaluate the effects of rice husk biochar and humic acid application on soil chemical properties and their relationship with soybean growth. The experiment was conducted at the Research Farm of the Faculty of Agriculture, Universitas Pembangunan Nasional "Veteran" Yogyakarta, using a Completely Randomized Design (CRD) with a two-factor factorial arrangement and three replications, resulting in 48 experimental units. The first factor was rice husk biochar (B) at four dosage levels, and the second factor was humic acid (H) at four dosage levels. The results showed that rice husk biochar and humic acid application improved soil organic C, cation exchange capacity (CEC), and total nitrogen, which was followed by better soybean growth. The highest values were observed under the B3H3 treatment (20 ton ha⁻¹ biochar and 3,15 L ha⁻¹ humic acid). This combination increased soil organic C from 0.51% to 1.11%, CEC from 1.1 cmol(+) kg⁻¹ to 1.72 cmol(+) kg⁻¹, and total nitrogen from 0.21% to 0.44%. The improved soil chemical fertility was accompanied by better soybean performance, with a plant height of 88.72 cm, 27 leaves, and 23.67 pods per plant. Overall, the application of rice husk biochar and humic acid enhanced soil chemical properties, particularly organic C, CEC, and total nitrogen, thereby supporting soybean growth.

Keywords: Biochar, Coastal Sandy Soil, Humic Acid, Nitrogen Availability, Soybean (Glycine max)

Temperature-Dependent Effects of *Beauveria bassiana* on Germination Dynamics and Early Growth of Red Onion (*Allium cepa* L.) Seedlings

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Abstract

The entomopathogenic fungus *Beauveria bassiana* can associate with plants and promote growth, but these effects may vary with temperature. This study evaluated the effects of *B. bassiana* on germination and early growth of red onion (*Allium cepa* L.) at 22, 28, and 34 °C. Bulbs were soaked for 3 h in 10⁸ conidia/mL or sterile water before planting. Fungal treatments were reinforced by soil drenching at 3, 6, and 9 days after planting (DAP) and foliar spraying at 6, 9, and 12 DAP. Germination, plant height, and leaf number were monitored for 12 days. Temperature significantly affected mean germination time ($F_{2,10} = 51.49$, $p < 0.001$), increasing from 2.98 days at 22 °C to 3.43 days at 28 °C and 4.58 days at 34 °C, whereas *B. bassiana* had no significant effect ($p = 0.339$). At 12 DAP, *B. bassiana*-treated seedlings were significantly taller than controls (18.73 vs. 18.16 cm; $F_{1,10} = 11.75$, $p = 0.006$). Area under the plant-height growth curve was significantly affected by temperature, *B. bassiana*, and their interaction ($F_{2,10} = 4.99$, $p = 0.031$). Growth promotion occurred at 22 and 28 °C but was negligible at 34 °C. Leaf number was markedly reduced at 34 °C, while *B. bassiana* had no significant overall effect. Thus, the early growth-promoting effect of *B. bassiana* was temperature dependent and substantially attenuated under continuous high temperature.

Keywords: Allium cepa; entomopathogenic fungus; heat stress; plant growth promotion; seedling establishment

Viability and Vigour Response of Hybrid Melon (*Cucumis melo* L.) to Sargassum Extract Priming under Salinity Stress

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Abstract

Salinity intrusion often limits seed germination and early seedling growth in coastal agricultural areas. Organic biostimulants, such as seaweed extracts, are a possible way to reduce this problem. This study aims to evaluate the effect of *Sargassum* sp. extract on the germination and early seedling growth of hybrid melon (*Cucumis melo* L.) cv. Melani F1 under saline conditions simulated using diluted seawater (brackish water). A completely randomized design with five treatments was used: an unprimed control, and four priming treatments in which seeds were soaked for 12 h in aqueous *Sargassum* extract at 0, 1, 2, or 3%, then germinated on paper moistened with diluted seawater. Priming significantly affected fresh weight, hypocotyl length, radicle length, and vigour index, while germination percentage was unaffected. Contrast analysis showed that this effect came mainly from the difference between the control and the primed treatments as a group, with no dose-dependent effect among *Sargassum* concentrations. Notably, the control had the highest fresh weight and length measurements but the lowest vigour index. Because vigour index here reflects the proportion of seeds forming normal seedlings by the first count rather than seedling size, and because the control differed from the primed treatments in both priming exposure and germination salinity at once, this divergence likely reflects their combined effect rather than *Sargassum* concentration itself. These findings offer preliminary laboratory evidence for developing seed priming protocols with *Sargassum* extract for coastal melon cultivation.

Keywords: Melon, salinity stress, sargassum extract, seed vigour, seed priming

Estimation of Genetic Parameters, Genetic Diversity, and Heritability Values of 10 Curly Chili Genotypes (*Capsicum annum* L)

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Abstract

Curly red chili is one of the high-value horticultural commodities and plays an important role in meeting food needs. Unpredictable weather conditions can cause declines in crop yield. One effort to increase chili productivity is the use of superior varieties with high yield potential. This study aimed to estimate genetic parameters, genotypic and phenotypic coefficients of variation, and heritability values in 10 tested genotypes, as well as to identify genotypes with high yield potential. The study used a field experiment in a Randomized Complete Block Design (RCBD) with one factor, namely genotype: 379380-42-1-15, 379380-12-16-18, 379381-23-9, 379381-28-3, 379380-49-8-8, 379380-12-16-15, Pesona, Neno Tavi, Cmk Tavi, and Laris. The data were analyzed using analysis of variance followed by Duncan's Multiple Range Test (DMRT) at the 5% level, as well as genotypic coefficient of variation and heritability analyses. The results showed varying levels of variability in all growth and yield variables. Moderate genotypic coefficients of variation were observed for flowering time, fruit weight, number of fruits per plant, and fruit weight per plant. High phenotypic coefficients of variation were observed for number of fruits per plant and fruit weight per plant. High heritability values were obtained for flowering time, plant height, dichotomous height, canopy width, fruit weight, fruit diameter, fruit length, and fruit stalk length.

Keywords: curly chili, genotype, genetic variability, heritability

Molecular Diversity and Genetic Relationships among Melon (*Cucumis melo* L.) Genotypes Revealed by RAPD Markers

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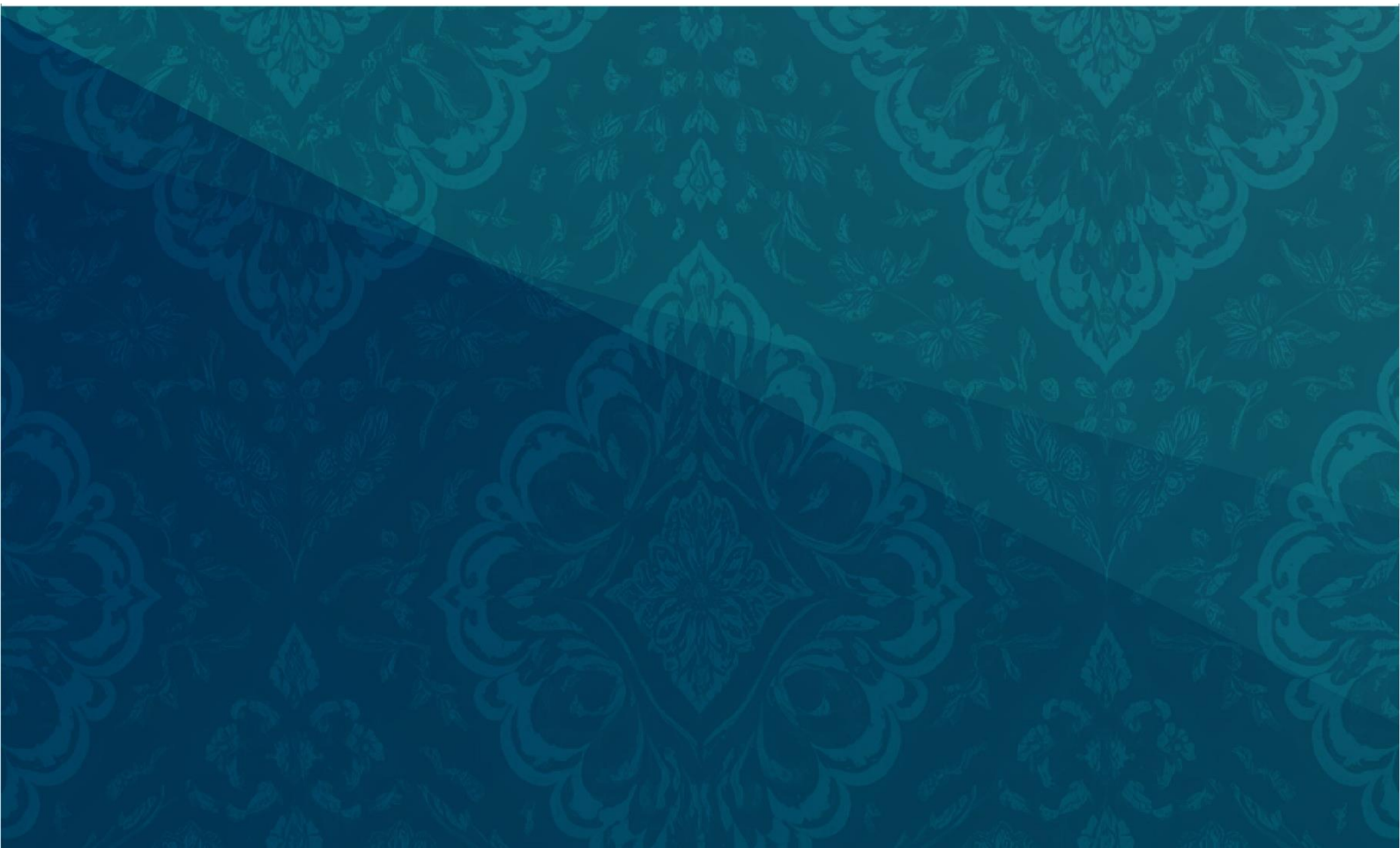
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Abstract

Melon (*Cucumis melo* L.) is an economically important horticultural crop in Indonesia, and the development of superior cultivars requires adequate genetic diversity and effective characterization of available germplasm. This study aimed to assess genetic variation among melon genotypes and identify informative RAPD primers for differentiating melon from timun suri and blewah, as well as to characterize genetic relationships among melon genotypes for molecular breeding purposes. A combined field and laboratory study was conducted at the Plant Breeding Laboratory, Universitas Pembangunan Nasional Veteran Yogyakarta. Eight RAPD primers were evaluated using 10 genetic materials consisting of eight melon genotypes, timun suri, and blewah. Amplified DNA fragments were scored as binary data and analyzed using NTSYS-pc 2.1 software. The eight RAPD primers generated 69 loci, of which 98.86% were polymorphic, indicating a high level of molecular variation among the evaluated materials. Among the primers evaluated, BC-388 and BC-551 showed the highest discriminatory capacity in separating timun suri and blewah from the melon genotypes. These two informative primers were subsequently used to assess genetic relationships among the eight melon genotypes. UPGMA cluster analysis separated the eight melon genotypes into two major groups at a similarity coefficient of 0.69. Cluster 1 comprised DGMC-2-5-16-1-5, DGMD-4-9-3-3-4, Pearl Lady, Dalmatian, and Golden Apollo, with a mean similarity coefficient of 0.77, whereas Cluster 2 comprised Orange Melody, Silver Light, and Yuki Lady, also with a mean similarity coefficient of 0.77. The advanced breeding lines DGMC-2-5-16-1-5 and DGMD-4-9-3-3-4 exhibited substantial genetic divergence from several other melon genotypes, suggesting their potential value as parental materials for future hybrid breeding programs. Overall, the RAPD approach successfully identified informative primers and revealed substantial genetic variation and distinct genetic relationships among the evaluated melon genotypes, providing preliminary molecular information to support strategic parent selection in melon breeding programs.

Keywords: Melon, RAPD, Genetic Variation, Dendrogram, PCR

Track: Agricultural Engineering



Evaluation of Land Suitability for Vegetable and Fruit Crops to Support the Free Nutritious Meal Program on the Bina Umat Islamic Boarding School Grounds

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Abstract

The land owned by the Bina Umat Islamic Boarding School in Tempel Hamlet, Pendoworejo, Girimulyo, Kulon Progo, Special Region of Yogyakarta, located in the Menoreh Mountains is classified as Alfisol soil. This soil exhibits low quality and fertility due to the leaching of basic cations (Ca, Mg, K, Na), low organic matter content, low pH, high levels of Al and Fe, and low phosphorus (P) availability. These conditions severely limit the land's agricultural potential. The Bina Umat Islamic Boarding School operates a kitchen that provides free, nutritious meals to its students and the general public. The government's Free Nutritious Meal (FNM) program requires a supply of high-quality raw ingredients. This study aims to assess land suitability for fruit and vegetable crops and determine how this information can support the school's FNM program. A descriptive survey method was employed. Purposive sampling based on slope gradient resulted in the selection of 16 sampling points. Data analysis involved matching land characteristics against crop suitability criteria as outlined in the Technical Guidelines for Land Suitability Evaluation for Agricultural Commodities (2011). The results indicate that the actual land suitability class for fruit and vegetable crops is S3 (Marginally Suitable). With improvements to address limiting factors, the land has the potential to reach class S2 (Moderately Suitable). The limiting factors identified at the site include excessively rapid soil drainage, low base saturation, and shallow soil depth.

Keywords: Evaluation, land suitability, fruit, vegetables, Islamic boarding school

Track: Geology



Characteristics of Volcanic Rocks From the Arjuno-Anjasmoro Volcanoes in the Tulungrejo Geothermal Prospect Area, Batu, East Java

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Abstract

Tulungrejo is situated between the Arjuno and Anjasmoro volcanoes, a region with geothermal potential. The area exhibits hot water manifestations and features volcanic and pyroclastic rocks within its geological framework. This study aims to identify the petrographic characteristics of the volcanic rocks in the region to provide insights into their crystallization and magmatic evolution, as well as to support the assessment of the geothermal system. The research involved geological mapping, the study of hot water manifestations, representative rock sampling based on lithological variations, and petrographic analysis. The results indicate that the volcanic rocks consist of basaltic andesite, andesite, pyroxene andesite, and hornblende andesite. These rocks exhibit porphyritic, pilotaxitic, and trachytic textures, with primary constituent minerals comprising plagioclase, pyroxene, hornblende, and opaque minerals. Plagioclase is the dominant mineral, with compositions ranging from andesine to labradorite. The variety of volcanic rocks present indicates a non-linear differentiation trend. The abundance of phenocrysts is characteristic of an island-arc setting. Evidence of magmatic activity and hot springs suggests that the region holds promising geothermal energy potential. Therefore, it is hoped that this study will be followed by further exploration activities aimed at developing the area into a new geothermal field to augment the electricity supply potential in East Java.

Keywords: Keywords: geothermal, volcanic rock, magmatism, island arc

Track: Industrial Engineering



Methylene Blue Adsorption Using the Metal-Organic Framework of Calcium Alginate (CaA)

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Abstract

Abstract Methylene blue (MB) is one of the most commonly used dyes in the printing and textile industries. This research aimed to synthesize MOF CaA (Metal-Organic Framework Calcium Alginate) as an adsorbent for MB dye waste and investigate the effects of contact time and MB concentration on adsorption efficiency. MOF CaA was synthesized through ion exchange between sodium alginate (NaA) and calcium chloride (CaCl_2) solution to produce calcium alginate (CaA). The obtained CaA adsorbent was then calcined at 800 °C for two hours to produce MOF CaA. Characterization was carried out using FTIR and SEM-EDX. FTIR characterization confirmed the presence of characteristic functional groups of alginate. SEM-EDX characterization showed the presence of C, O, Ca, Na, and Al in the CaA adsorbent. The results showed that the highest MB reduction was found at 60 minutes of contact time with MOF CaA concentrations of 0.02 g/L and MB concentrations of 0.005 g/L. The adsorption efficiency was 36.3549%. The adsorption kinetics of MB on CaA followed the intraparticle diffusion model, which showed the highest correlation coefficient (R^2) of 0.9683 among the kinetic models evaluated. These findings demonstrate the potential of technical-grade CaA as an economical adsorbent for methylene blue removal from aqueous solutions. Keywords: bio-MOF, brown algae, degradation, dye, methylene blue

Keywords: bio-MOF, brown algae, degradation, dye, methylene blue

Development of a Decision Support System Framework for Intelligent Transportation System Adoption Evaluation Based on SEM-PLS Analysis

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Abstract

The implementation of Intelligent Transportation Systems (ITS) requires an evaluation mechanism that considers technological, infrastructural, socioeconomic, financial, readiness, affordability, and policy-related conditions. Although previous studies have identified determinants of ITS adoption, their findings have rarely been transformed into operational decision-support mechanisms. This study develops a model-driven Decision Support System (DSS) framework for evaluating ITS adoption readiness based on empirically validated Partial Least Squares Structural Equation Modeling (PLS-SEM) relationships. A sequential mixed-methods design was employed. The qualitative stage involved a Focus Group Discussion with six participants comprising two subject-matter experts, two government representatives, and two academics. During the quantitative stage, 100 questionnaires were distributed to transportation users and stakeholders, and 75 usable responses were obtained, representing a 75% response rate. PLS-SEM was used to evaluate the measurement and structural models. The results indicated that Government Policy had the strongest significant direct relationship with ITS Adoption ($\beta=0.454$, $p<0.001$), followed by Smart Readiness ($\beta=0.244$, $p=0.001$). Social Affordability did not have a significant direct relationship with ITS Adoption ($\beta=0.047$, $p=0.515$). The validated relationships were transformed into a DSS comprising Data, Model, and Decision Layers. To ensure dimensional consistency, raw assessment values were standardized before applying the standardized path coefficients, while readiness categories were interpreted using percentile-based thresholds. The proposed framework extends PLS-SEM findings beyond hypothesis testing by providing a transparent basis for ITS readiness assessment and factor-specific policy prioritization. Further validation using larger samples and operational implementation remains necessary.

Keywords: Intelligent Transportation System, Decision Support System, PLS-SEM, Technology Adoption, Smart Mobility

A User-Centered Architecture for E-Budgeting: Designing Role-Based Interfaces for Public Administration

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Abstract

Public financial platforms often transfer inflexible manual processes directly into digital environments (a phenomenon termed "e-bureaucratism"), heightening cognitive strain and threatening adherence to intricate policies like Presidential Regulation No. 72 of 2025. Therefore, this study aims to design an official travel administration interface prototype accommodating strict bureaucratic workflows while preserving cognitive ergonomics. Employing the ISO 9241-210:2019 User-Centered Design (UCD) standard, the methodology encompassed analyzing user contexts via in-depth interviews with three key participants: one Head of Department, one Master Administrator, and one Department Administrator. Engaging these specific roles was critical to capture firsthand administrative constraints, ensuring the resulting interface accurately aligns with users' mental models to mitigate cognitive overload. This analysis guided the specification of functional requirements and design solutions, involving mapping hierarchical user flows and developing low-fidelity wireframes tailored for these actors. The results yield a role-based architecture enforcing functional isolation. Providing macro-level financial dashboards for central administrators and task-specific modules for departmental executors minimizes information overload. Additionally, structured user flows operationalize seamless integration by embedding statutory constraints like quotas and tariff validations into backend automation. This actively shields users from manual cross-referencing, aligning the interface with their mental models, and ensuring strict regulatory compliance without sacrificing operational efficiency.

Keywords: User-Centered Design, E-Budgeting, Role-Based Interface, Digital Transformation

Prioritizing Supply Chain Risk for Flexibility and Resilience: A House of Risk Approach

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Abstract

Indonesia's inorganic chemical industry, a national priority sector, faces mounting supply chain uncertainty driven by its heavy reliance on imported raw materials. However, research combining empirical risk factor validation with measurable risk prioritization in this sector remains scarce. This study aims to identify and validate the risk factors contributing to this uncertainty and determine risk priorities, laying the foundation for mitigation strategies that strengthen Supply Chain Flexibility (SCF) and Resilience (SCRes). Based on the judgments of five Supply Chain Management experts, the study employs a descriptive quantitative design combining the Content Validity Index (CVI) to validate risk factors with House of Risk (HoR) Phase 1 for risk prioritization. Results show nine of 14 initial risk factors were valid, with Strategic, Supply, and Quality risk as the most conceptually relevant. However, ARP results revealed the opposite pattern: rather than these three, Demand risk in the planning process, particularly weak forecasting and limited demand information sharing, emerged as the highest-contributing risk agent, followed by logistics and raw material inventory risk. Eighteen of 34 risk agents contributed to 80,91% of total risk, consistent with the Pareto principle. These findings confirm that a risk's conceptual relevance does not always reflect its quantitative urgency, indicating mitigation should prioritize forecasting systems, information visibility, and supply diversification as a foundation for balanced SCF and SCRes improvement in the inorganic chemical industry.

Keywords: Content Validity Index, House Of Risk, Inorganic Chemical Industry, Supply Chain Flexibility, Supply Chain Resilience

Track: Electrical Engineering



Metric-Based Reliability Transition Detection in Multisensor Localization

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Abstract

A two-dimensional range localization system can remain accurate over much of its operating range and then deteriorate rapidly as measurements degrade. This paper estimates that operating boundary instead of reporting only an average-error curve. Monte Carlo failure probabilities are fitted by a two-parameter logistic model whose midpoint defines critical signal-to-noise ratio (SNR). Using the pooled fine-grid results from three independent random-seed sets, the weighted nonlinear least-squares experiment locates critical SNRs of 0.34, 2.93, and 6.05 dB for Gaussian, burst, and burst-plus-bias errors, respectively. Pairwise bootstrap tests confirm separation among the three transitions. Validation over three sensor layouts and five target positions preserves the degradation ordering while showing geometry-dependent critical-SNR ranges. A Huber estimator reduces the burst-related transition values without changing the Gaussian result materially. The contribution is an estimator-independent reliability diagnostic with explicit failure semantics, uncertainty intervals, and reproducible trial-level data; it is not a new localization optimizer.

Keywords: Multisensor localization, reliability transition, failure probability, nonlinear least squares, measurement degradation.

Track: Information Technology



Translating Halal Control Requirements into BPMN Business Rules for QR Code Traceability

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Abstract

Halal supply chain integrity in poultry slaughterhouses (Rumah Pemotongan Ayam, RPA) is frequently compromised by manual, fragmented record-keeping, which enables practices such as the informal use of another RPA's halal certificate. This study addresses a gap in existing halal traceability research, which has largely focused on technology selection (blockchain, RFID, QR code) without explicitly documenting the underlying business rules that operationalize halal-specific critical control points. Using a Design Science Research approach, this paper reports the problem identification, design and development, and demonstration stages for the BPMN-based business process design of "Sistem Jejak Halal," a QR code-based halal traceability system developed with a Type C RPA partner. Field observation, interviews, and focus group discussions were used to elicit halal control requirements, which were then modeled as four interrelated BPMN processes, RPA registration, breeder data management, JULEHA (Halal Slaughterer) data management, and halal QR code generation, and validated through iterative walkthroughs with the partner. The results show that BPMN can translate halal-specific risks, including certificate and Veterinary Control Number (NKV) validity and JULEHA (Halal Slaughterer) active-status verification, into explicit, auditable business rules embedded directly in the process design, rather than relying solely on the accuracy of consumer-facing information. This design provides an implementation-ready specification for the RPA partner and serves as the requirements basis for the subsequent Rapid Application Development phase of the broader research initiative. Findings are context-bound to a single Type C RPA case study; transferability to other medium-scale poultry slaughterhouses is proposed as future work.

Keywords: Business Process Model and Notation, halal traceability, QR code, halal critical control point, poultry slaughterhouse

Information Security Risk Management Using ISO/IEC 27005 to Ensure the Continuity of Academic Services at the ICT Academic Support Unit (UPA TIK) of Universitas Pembangunan Nasional Veteran Yogyakarta

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Abstract

UPA TIK of UPN ‘Veteran’ Yogyakarta operates four interdependent academic systems: Bima for academic administration, Spada Wimaya for online learning, Sadewa for student activities and achievements, and Nakula for lecturer services. Service interruptions caused by DDoS traffic, malware, unstable power, and hardware failure motivated a structured risk assessment. This study applies ISO/IEC 27005:2022 to identify, analyze, evaluate, and treat information security risks using asset-based scenarios. Evidence was obtained from document review, interface observation, interviews with the Head of UPA TIK as the risk owner and key informant, and a confirmatory survey of p users. The assessment identified 257 risk scenarios: for primary asset there are 34 in Bima, 37 in Spada Wimaya, 58 in Sadewa, 76 in Nakula, and 52 in supporting assets. Likelihood and consequence were scored on harmonized five-level scales and mapped to a 5×5 matrix. Based on the risk assessment results for 257 risk scenarios, there are 11 high risks, 72 medium risks, 131 low risks, and 32 very low risks. Consequently, there are 83 risks that must be prioritized for mitigation using ISO/IEC 27001:2022 Annex A controls. Critical recommendations include capacity management for peak registration, redundant processing facilities and maintained power support, continuous malware protection, stronger upload validation, data classification and encryption, longer log retention, and formal incident ticketing. The principal contribution is an integrated assessment of four systems that share infrastructure and governance, producing one comparable risk register, Statement of Applicability, and implementation-oriented treatment plan. Residual risk will be measured after the recommended controls are implemented

Keywords: academic information systems; information security; ISO/IEC 27005; risk assessment; risk treatment

Development of an Automated Essay Scoring (AES) Dataset for Indonesian Language using OCR and Inter-Rater Validation

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Abstract

The availability of Automated Essay Scoring (AES) datasets remains limited for low-resource languages like Indonesian. This study develops and validates a reliable Indonesian AES dataset sourced from 219 authentic handwritten student exams. The methodology utilizes a multi-stage pipeline involving image digitization, Optical Character Recognition (OCR) text extraction with meticulous manual verification, and a rigorous cross-validation protocol by three independent expert annotators. On a per-item reliability subset ($n = 59$), the expert panel's consensus achieved good-to-excellent agreement ($ICC = 0.819\text{--}0.914$). In contrast, single-evaluator assessments agreed only moderately with the panel ($QWK \leq 0.642$), exhibiting coarse grading tendencies and wider limits of agreement. Consequently, the panel's consensus average was established as the dataset's gold-standard label. Overall, this research contributes a highly reliable, structured educational dataset that provides a robust and ecologically valid foundation for training and evaluating AES models in low-resource contexts.

Keywords: Automated Essay Scoring, Indonesian Natural Language Processing, Optical Character Recognition, Dataset Construction, Inter-Rater Reliability

Optimasi Klasifikasi Citra Gunung Merapi Dengan Penerapan Algoritma Clahe

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Abstract

Continuous monitoring of Mount Merapi's volcanic activity by the Center for Volcanology and Geological Hazard Mitigation (BPPTKG) is frequently hindered by poor visual image quality caused by adverse weather, heavy cloud cover, dense fog, and insufficient nighttime illumination. These visual constraints impede precise identification of visibility levels, which can obstruct disaster risk assessment and timely early warnings. This study aims to automate the visibility classification of Mount Merapi images using a deep learning model based on the VGG-16 Convolutional Neural Network (CNN) architecture. To address visual impairments, Contrast Limited Adaptive Histogram Equalization (CLAHE) was applied as a preprocessing step to enhance local image contrast without inducing excessive noise. Specifically, the base VGG-16 architecture was modified via transfer learning by replacing the original fully connected layers with a Global Average Pooling (GAP) layer and reducing the first Dense layer to 512 neurons to lower computational complexity and mitigate overfitting. Image data were collected via web scraping from the official BPPTKG gallery and categorized into six visibility classes. Experimental results show that applying CLAHE with an optimal clip limit of 5 provides the most effective contrast enhancement. Utilizing the Adam optimizer with a learning rate of 0.0001, a batch size of 32, a 70:20:10 data split ratio, and training for 200 epochs improved validation accuracy from 84.36% to 89.25%, and testing accuracy to 91.67%. The most significant gain occurred under low-light conditions (the "Night Obscured" class), achieving 100% precision.

Keywords: Mount Merapi, Computer Vision, Image Classification, VGG-16, CLAHE

Track: Sociology



Socioeconomic Inequalities and The Execution Gap: A Critical Analysis of Student Entrepreneurship

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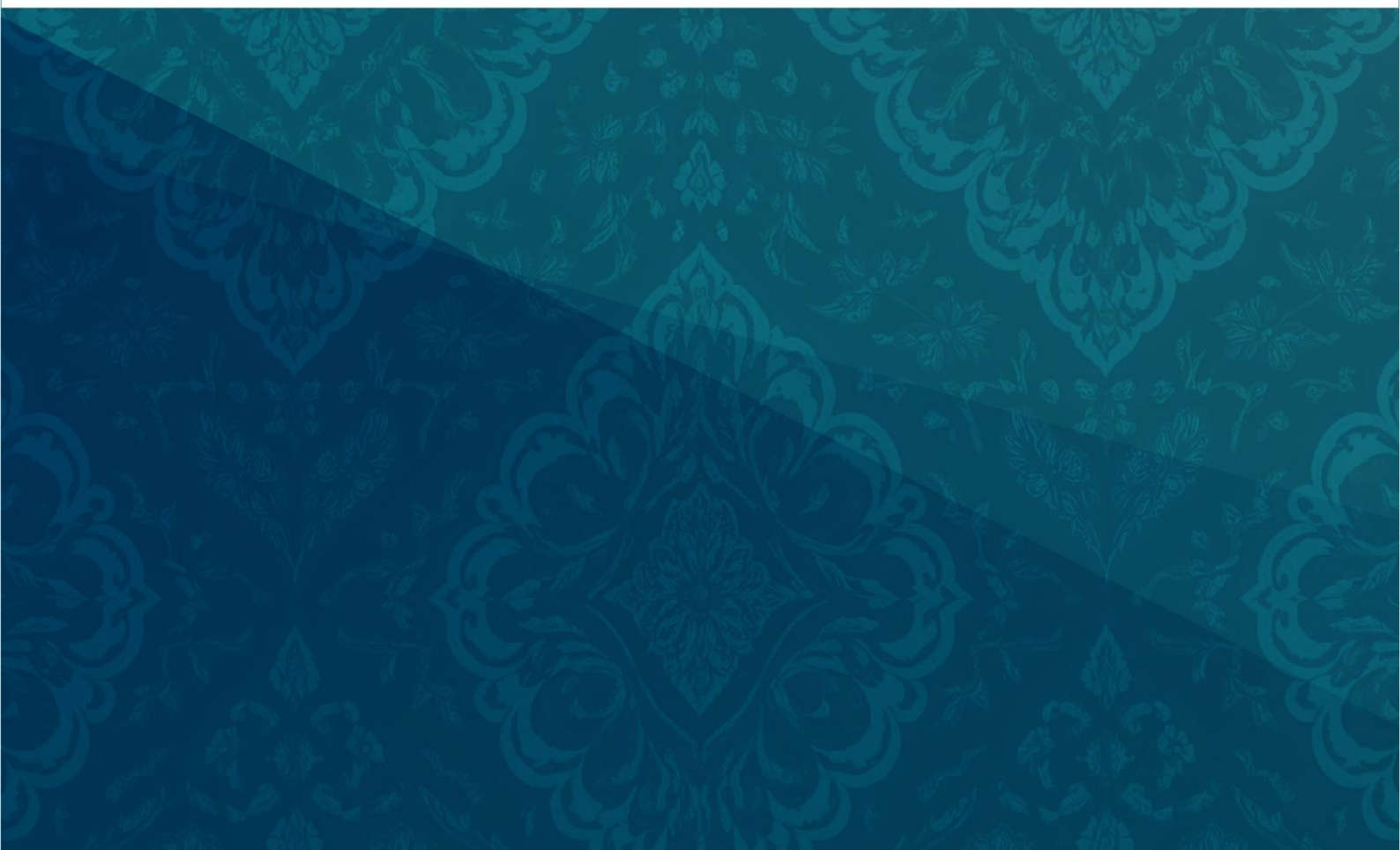
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Abstract

Higher education entrepreneurship programs actively foster students' motivation and theoretical knowledge. However, many students still struggle to execute their business ideas. The novelty of this study lies in its examination of how inherited socioeconomic disparities dictate business survival, moving beyond the usual focus on individual psychological traits. This study aims to evaluate the actual determinants of student startup sustainability and examine the impact of top-down policies that ignore students' financial backgrounds. A quantitative survey of 1,032 students was conducted. Data were analyzed using Partial Least Squares Structural Equation Modeling and Importance-Performance Map Analysis (IPMA) to evaluate nine dimensions of entrepreneurial readiness, which are synthesized into cognitive-psychological, operational-strategic, and environmental-motivational pillars. The IPMA results indicate that while institutional support and student motivation score high in performance, they have low importance for actual income generation. Instead, practical execution skills and inherited sociocultural capital are the most crucial factors for business survival. Consequently, mandatory policies demanding startups to reach the Regional Minimum Wage (UMR), a local baseline for minimum acceptable monthly income, fail to account for systemic inequalities. The study recommends affirmative action, such as institutional microgrants, to support underprivileged student entrepreneurs rather than applying rigid financial metrics.

Keywords: Entrepreneurial Readiness, Socio-Cultural Capital, Structural Inequality, Higher Education

Track: Tourism Management



Regenerative Tourism: A Case Study of Wukirsari Tourism Village, Bantul, Yogyakarta

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Abstract

Moving beyond the poverty-focused paradigm, regenerative tourism emphasizes the restoration and strengthening of a destination's environmental, cultural, and social well-being, rather than merely limiting negative impacts. This study examines the implementation of regenerative tourism in Wukirsari Tourism Village, Bantul Regency, Yogyakarta, focusing on its cultural and environmental dimensions. Employing a qualitative case study design, primary data were collected through in-depth interviews with three destination managers and validated via source triangulation involving community groups and the Bantul Regency Government. Data were analyzed thematically through stages of reduction, categorization, interpretation, and conclusion drawing. The findings indicate that the regeneration process in Wukirsari unfolds along two paths. Culturally, this is reflected in the practice of hand-drawn batik (batik tulis), the intergenerational transfer of batik skills, the strengthening of local identity, culturally immersive tourism experiences, and active community engagement. Environmentally, this is evident in heightened ecological awareness among residents, waste reduction and reuse, and increasingly eco-friendly tourism practices. Nevertheless, the village still faces challenges in maintaining consistent environmental management, building community capacity, integrating various programs, and developing systematic indicators to measure regenerative outcomes. The study concludes that Wukirsari is transitioning from mere aspiration toward genuine regeneration, although this process requires stronger collaborative governance, clearer impact measurement, and closer integration between cultural preservation and environmental restoration.

Keywords: regenerative tourism, tourism village, culture, environment, Wukirsari

Track: Environment Studies



Effects of Straw Return and Soil Amendments on Methane Emissions During Early Anaerobic Incubation of Paddy Soil

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Abstract

Rice paddies are one of the largest global sources of anthropogenic methane (CH₄), and straw return can intensify emission by supplying decomposable carbon and promoting reducing conditions. However, amendment-specific responses to rice straw-induced CH₄ emissions under anaerobic conditions remain insufficiently understood. A 15-day laboratory incubation experiment was conducted using 6 treatments: control (CK), straw only (S), straw combined with biochar (S+Bio), zeolite (S+Zo), CuSO₄ (S+Cu), and FeCl₃ (S+Fe) with three replicates. Flooded paddy soil was incubated at 25°C and CH₄ flux, soil pH, electrical conductivity (EC), oxidation-reduction potential (ORP), dissolved H₂, and temperature were measured on days 0, 7, and 15. Results showed that straw return increased CH₄ emissions compared to CK, whereas amendment effects changed markedly over time. On day 7, S+Fe reduced CH₄ flux by 91.9% relative to S, the strongest early-stage suppression, but reversed by day 15 to the highest CH₄ flux among amended treatments. S+Bio and S+Zeo instead showed greater suppression at day 15 than at day 7, while S+Cu achieved the highest average suppression (45.2%) across the 15-day incubation. CH₄ was negatively correlated with ORP ($r=-0.63$, $p<0.001$) and positively correlated with dissolved H₂ ($r=0.69$, $p<0.001$), confirming the central role of soil redox status in CH₄ production. These findings demonstrate that amendment effectiveness during post-harvest straw decomposition is strongly time-dependent, highlighting the need to evaluate mitigation performance across the full decomposition period rather than at a single time point.

Keywords: methane emissions, paddy soil, straw return, soil amendments, greenhouse gas mitigation

Hybrid Constructed Wetland Performance Using *Cyperus rotundus* for Batik Wastewater Treatment

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Abstract

Batik industry wastewater contains organic matter, suspended solids, phenolic compounds, and heavy metals that can pollute water bodies if left untreated. This study evaluated the Hybrid Constructed Wetland (HCW) with Vertical and Horizontal Subsurface Flow using *Cyperus rotundus* to treat batik wastewater at laboratory scale. Two Hydraulic Retention Times (HRT) of 4 and 8 days were compared, representing the first application of *C. rotundus* in a hybrid VSSF-HSSF configuration for batik wastewater treatment. Parameters analyzed included BOD, COD, TSS, TDS, phenol, total chromium, pH, and temperature. Initial characterization showed BOD, COD, TSS, phenol, and pH exceeded quality standards, while TDS and total chromium complied. HCW treatment showed the best overall performance at an HRT of 8 days for most parameters, with removal efficiencies of 83.73% (BOD), 91.36% (COD), 98.98% (TSS), 98.56% (total chromium), although phenol removal was marginally higher at 4 days (98.27% vs 96.30%), while TDS increased by 71.21% at 8 days. These results indicate that the HCW system with *C. rotundus* effectively improves batik wastewater quality and offers potential as a simple, eco-friendly treatment alternative, although BOD and COD concentrations remained above the applicable quality standards after treatment, and further optimization is needed to fully meet effluent standards.

Keywords: Batik Industry, Cyperus rotundus, Hybrid Constructed Wetland, Hydraulic Retention Time, Wastewater.

Track: Education



Mapping the Diversity and Distribution of Appropriate Technology in University Student Community Services

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Abstract

Appropriate Technology is a form of technology application used to address community needs according to regional conditions. The 2024 Universitas Pembangunan Nasional Veteran Yogyakarta Student Community Services Program (KKN) produced various TTG outputs that have not been comprehensively mapped by field and application location. This study aims to map the diversity and distribution of TTG based on 295 reports from the 2024 KKN activities and determine priority TTG as a basis for developing superior technology. A quantitative descriptive approach was used to recapitulate and classify TTG data from secondary KKN reports based on field of application-agriculture, environment, and information systems-and locations. The mapping identified 207 TTG, with agriculture being the most widely applied field (91 TTG, 44.0%), followed by environment (65 TTG, 31.4%) and information systems (51 TTG, 24.6%). Several TTG, including organic fertilizer and botanical pesticides, were frequently applied across multiple KKN locations. These frequency and distribution patterns served as the basis for determining priority TTG for prototype development. This study provides the first systematic institutional inventory of community-service technology outputs at Universitas Pembangunan Nasional Veteran Yogyakarta, offering an evidence base for identifying community technology needs and directing the development of TTG more appropriate to field conditions.

Keywords: Appropriate Technology, Community Services, Innovation Inventory, Rural Development, Technology Adoption

An Outcome-Based Bachelor-Master Fast-Track Framework for Mining Engineering

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Abstract

Bachelor-master fast-track programs can improve progression efficiency, but acceleration can also create workload, credit-recognition, research-continuity, and quality-assurance risks. This study develops an Outcome-Based Education (OBE)-oriented academic and governance framework for a Mining Engineering fast-track pathway. The study uses institutional research based on policy and standards review, benchmarking of comparable Indonesian fast-track schemes, structured analysis of institutional documents, gap analysis, and design synthesis. The proposed model selects students at the end of semester six and introduces a controlled transition in semesters seven and eight, while participants retain undergraduate status until undergraduate graduation. The framework integrates undergraduate and master learning outcomes, approved master-level courses, research continuity, equivalent assessment standards, mentoring, formal credit recognition, staged monitoring, and auditable evidence. Institutional analysis identified conflicting provisions in earlier communication materials and the 2026 guide, particularly concerning GPA, study duration, credits, and the timing of undergraduate graduation. The main contribution is an integrated framework that treats fast-track education not merely as accelerated course taking, but as an OBE-based quality-assurance system linking admission, curriculum, research, governance, and continuous improvement. The framework should be validated through a limited pilot cohort before wider implementation

Keywords: fast-track program, Outcome-Based Education, engineering accreditation, Mining Engineering, quality assurance

Track: Tourism Management



Analyzing User Generated Content in Yogyakarta Tourism Through Integrated TF-IDF, LDA, and Qualitative Descriptive Analysis

| Rifki Indra Perwira¹, Dian Indri Purnamasari¹, Yuseptia Angretnowati¹, Shely Rizki Hardiana¹, Riza Prapascatama Agusdin¹

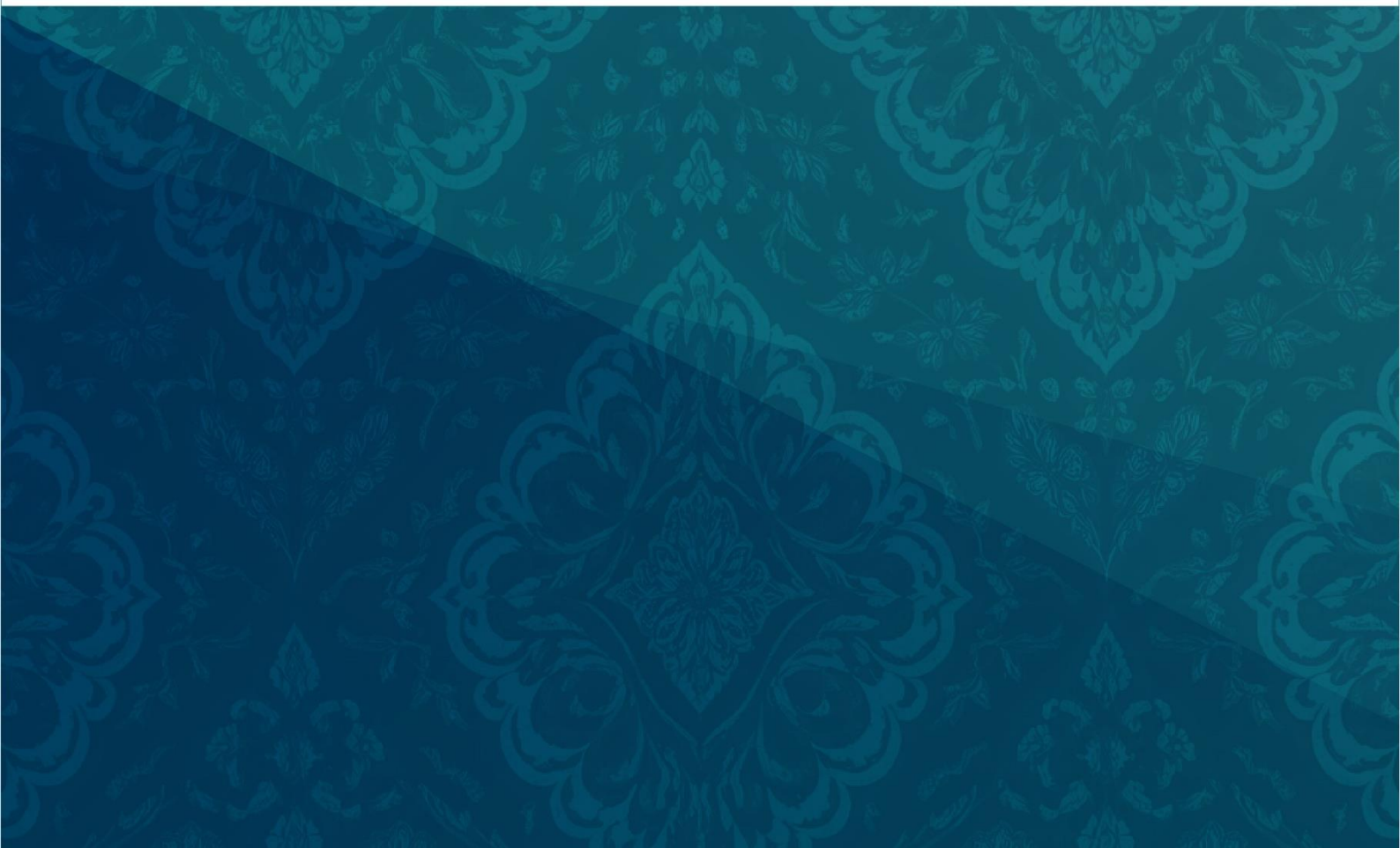
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Abstract

User-generated content shapes how tourists choose a destination, yet Indonesian destination managers rarely turn it into usable evidence. This study identifies the lexical and thematic structure of tourist reviews for five destinations in Yogyakarta, and explains that structure through the accounts of tourism stakeholders. A convergent mixed-methods design was applied to 15,000 Google Reviews, of which 7,963 survived preprocessing. TF-IDF weighted the distinguishing words, LDA grouped them into latent topics, and two focus group discussions with twenty participants explained why those topics mattered. The models yielded two to four topics per site. Malioboro proved the most fragmented, because parking conduct and vendor pressure formed a topic separate from night atmosphere. Three concerns recurred everywhere: interaction with local actors, destination management, and price. Lexical, thematic, and qualitative evidence can therefore guide destination development together.

Keywords: UGC, TF-IDF, LDA, Qualitative Descriptive Analysis, Tourism Management

Track: Environment Studies



Mapping Reverse Osmosis Research for Drinking Water Treatment: A Bibliometric Analysis of Trends and Applications

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Abstract

Access to safe drinking water remains a major global challenge, while reverse osmosis (RO) has become an important technology for desalination and advanced drinking-water treatment. However, the development of RO research has not been sufficiently characterized in terms of publication growth, research themes, membrane technologies, water-source applications, and geographic distribution. This study aims to map the research landscape of RO for drinking-water treatment and to position RO relative to other treatment technologies. Bibliometric data were retrieved from OpenAlex for English-language research articles published from 1995 to 2025. After screening and inclusion criteria were applied, 192 RO-related articles were analyzed. Publication trends, citation patterns, geographic distribution, membrane types, and water-source applications were analyzed using Microsoft Excel, while keyword co-occurrence, overlay, and density analyses were conducted using VOSviewer. Comparative publication datasets were also compiled for ozonation, activated carbon adsorption, and UV disinfection. The results show a substantial increase in RO publications after 2017, reaching a peak of 20 publications in 2023. Research themes are centered on membrane technology, desalination, fouling, nanotechnology, and polyamide membranes, while groundwater, surface water, and microbial-related themes form additional clusters. Seawater is the most frequently reported water source, followed by brackish water and groundwater. Among the compared technologies, RO has the highest publication output. The findings provide a basis for identifying future research directions and supporting context-specific drinking-water treatment development, particularly in Indonesia.

Keywords: reverse osmosis, bibliometric analysis, drinking water treatment, membrane technology, desalination

Characterization of Kitchen Wastewater from SPPG Facilities under the Free Nutritious Meals Program in Sleman Regency as a Basis for Wastewater Treatment Plant Planning

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Abstract

The Free Nutritious Meal Program generates kitchen wastewater containing organic matter, suspended solids, oil and grease, and microorganisms. This study characterized wastewater from 10 SPPG facilities across 10 sub-districts in Sleman Regency based on BOD, COD, TSS, oil and grease, and total coliform, and compared the results with applicable standards under Minister of Environment and Forestry Regulation No. 11 of 2025. Results showed substantial variation, with TSS of 121–7,340 mg/L, BOD 91–1,445 mg/L, COD 829–8,078 mg/L, oil and grease <0.2–168.4 mg/L, and total coliform exceeding 16×10^8 MPN/100 mL at most locations. Most parameters exceeded the applicable standards. Higher pollutant concentrations tended to occur at facilities with higher production volumes and fried-food menus, although these relationships were based on observed patterns rather than statistical testing. The findings provide baseline wastewater characteristics for SPPGs in Sleman Regency and support treatment planning, particularly the use of grease traps as pretreatment before biological processes. The study is limited by a single sampling event at each facility

Keywords: SPPG; kitchen wastewater; wastewater characterization; pollutant load; Free Nutritious Meal (MBG) Program

Runoff Discharge and Sedimentation Yield Assessment for Mine Drainage Design in Lateritic Nickel Mining

| Nahar Muqaddim Jundan Arif¹, Thema Arrisaldi¹, Peter Eka Rosadi¹, Tedy Agung Cahyadi¹, Faizal Agung Riyadi¹

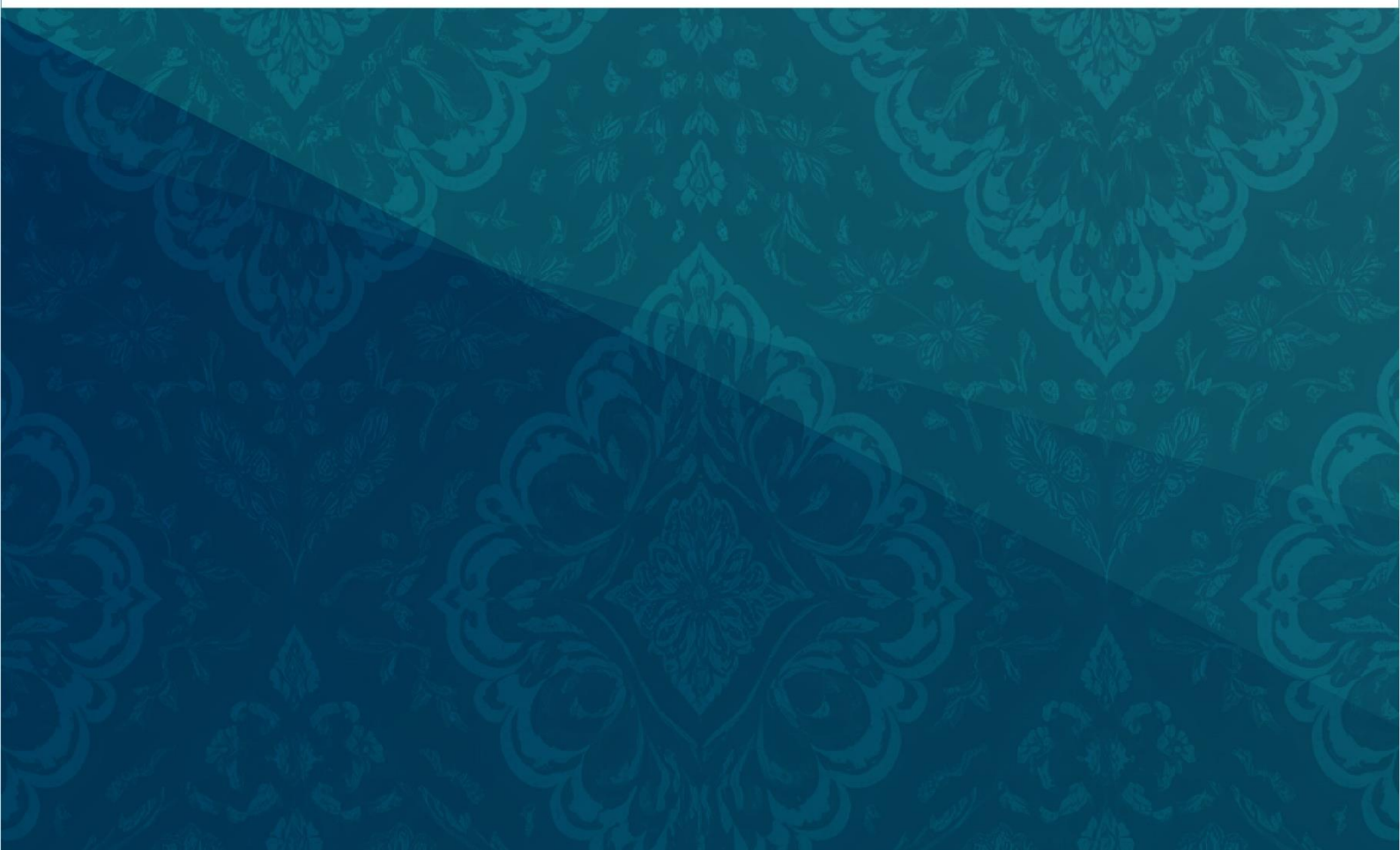
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Abstract

Laterite nickel mining using the open-pit method removes vegetation cover and exposes loose limonite materials, thereby increasing surface runoff and accelerating erosion and sedimentation. Without a quantitatively designed mine drainage system, these conditions may disrupt mining operations and reduce the quality of receiving water bodies. This study aimed to analyze runoff discharge, erosion rate, and sedimentation potential within a nickel mining area in Langgikima District, North Konawe Regency, Southeast Sulawesi, and to utilize the results as the basis for designing open channels and settling ponds. Twenty-one years of rainfall data (2005-2025) were analyzed to determine design rainfall and intensity using the Gumbel distribution and Mononobe equation. Runoff discharge, erosion, and sedimentation potential were estimated using the Rational Method, USLE, and SDR, respectively, and subsequently used to design mine drainage channels and settling ponds based on Manning's equation and Stokes' Law. The design rainfall was 187.26 mm with an intensity of 25.76 mm/h, classified as very heavy. Six catchment areas ranging from 0.39 to 1.91 km² produced runoff discharges of 2.25 to 7.67 m³/s. Erosion rates were only 0.08 ton/ha/year in vegetated areas but increased to 66.47-140.30 ton/ha/year in barren areas, with a total sedimentation potential of 4,012.7 m³/year. The combined channel carrying 13.288 m³/s requires a flow depth of 2.037 m and a bottom width of 2.353 m, whereas the settling pond requires an area of 1,247.7 m² and a storage volume of 6,238.3 m³, achieving a sediment removal efficiency of 91.23%.

Keywords: runoff discharge, erosion, sedimentation, mine drainage, settling pond

Track: Political Science



Platform Governance in the Prevention of Child Radicalization in Indonesia: A Policy Network Analysis

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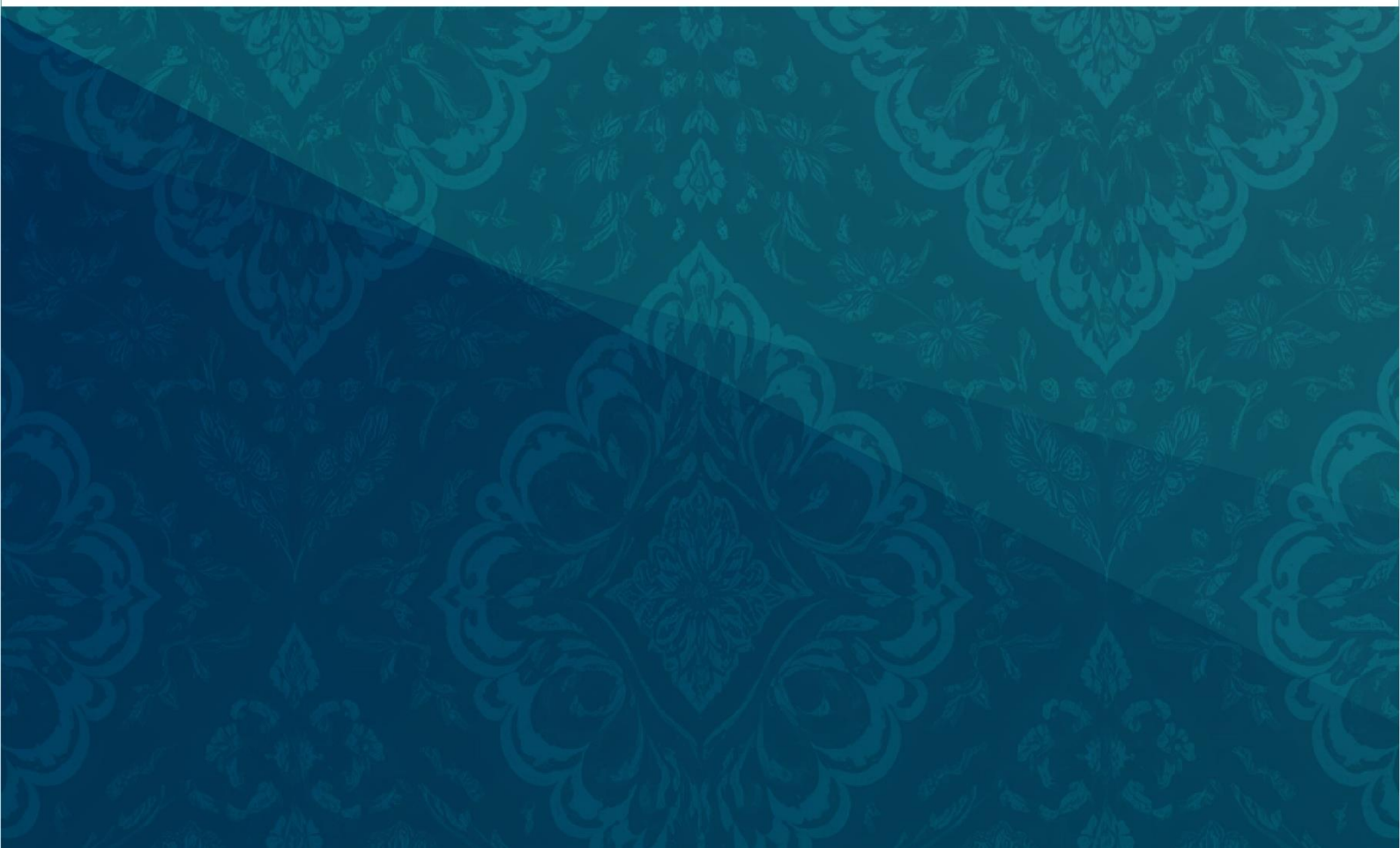
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Abstract

This article examines the governance transition in Indonesia's Preventing/Countering Violent Extremism (P/CVE) policy. It traces the governance perspective used in the National Action Plan for the Prevention and Countering of Violent Extremism Leading to Terrorism (RAN-PE), which has shifted from a policy-network perspective toward a whole-of-government approach. Using qualitative methods, the study finds that the whole-of-government approach does not yet fully recognize digital platforms as actors beyond the traditional P/CVE policy network. Although coordination among state institutions has developed in addressing communications and cyber issues, the government has not effectively regulated the infrastructural power of digital platforms. This limitation is particularly visible in cases of child radicalization. The study therefore recommends strengthening P/CVE efforts through platform governance as a complement to the whole-of-government framework in responding to radicalization in digital spaces.

Keywords: radicalization child, P/CVE, network policies, whole of government, governance platforms

Track: Policy Studies



Strategy to Enhance Key Performance Indicators (IKU) at Universitas Pembangunan Nasional "Veteran" Yogyakarta: A Qualitative Descriptive Analysis

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Abstract

This study aims to comprehensively analyze the research management and development strategy at Universitas Pembangunan Nasional “Veteran” Yogyakarta (UPNYK) in supporting the achievement of the university’s Key Performance Indicators (IKU), identify the effectiveness of internal research grant schemes in improving research outputs, map the alignment of flagship research areas with the Sustainable Development Goals (SDGs) and Bela Negara values, and formulate strategic recommendations for strengthening IKU achievement. A qualitative descriptive approach was employed through document analysis. Data were collected from the 2025–2029 Research Strategic Plan, 2026 Research Guidelines, internal research grant documents, and research output records. The findings indicate that LPPM UPNYK implemented 10 internal research grant schemes strategically aligned with IKU related to faculty recognition, collaboration downstreaming, international publications, SDGs contribution, and industrial engagement. The schemes stimulated diverse research outputs, including publications in Scopus-indexed journals, collaborative research outputs, intellectual property, and research activities contributing to the SDGs. The integration of Food, Energy, and Environment as flagship research areas with Bela Negara values further strengthened the relevance and strategic positioning of institutional research. The study implies that research governance should be further strengthened through research group-based management, systematic support for publication in reputable international journals, intellectual property commercialization, stronger research-industry collaboration and integrated research information systems. These strategies are expected to enhance research quality, institutional research productivity, and sustainable achievement of UPNYK’s IKU.

Keywords: Research Strategy, Key Performance Indicators (IKU), Universitas Pembangunan Nasional Veteran Yogyakarta, Internal Grant, Research Governance

Track: Informatics



Vegetation-Based Early Warning System for Post-Mining Reclamation to Reduce Disaster Risk and Achieve SDGs

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Abstract

Post-mining land reclamation in Indonesia faces critical operational challenges, particularly regarding the continuous monitoring of long-term vegetation recovery trajectories and the proactive prevention of slope failures and landslide disasters across expansive, remote concession areas. Traditional field-based monitoring protocols are often constrained by high labor costs, limited spatial coverage, and severe logistical difficulties, making the early detection of localized land degradation difficult. To address these limitations, this study develops and evaluates an operational vegetation-based early-warning framework designed to optimize post-mining land management and directly align with Indonesia's commitment to Sustainable Development Goals (SDGs)—specifically SDG 15 (Life on Land), SDG 13 (Climate Action), and SDG 12 (Responsible Consumption and Production). The proposed system utilizes multitemporal Normalized Difference Vegetation Index (NDVI) and Soil Adjusted Vegetation Index (SAVI) time series derived from quarterly Sentinel-2 Level-2A satellite imagery. These remote sensing spectral indices were integrated with crucial contextual attributes, including detailed planting age datasets and topographic parameters derived from Digital Elevation Models (DEM), such as slope steepness and elevation profiles. This feature space was subsequently used to train a Multilayer Perceptron (MLP) neural network classifier using 462 ground-verified sample pixels collected from an active post-mining reclamation site located in Central Sulawesi, Indonesia. The MLP classification model achieved a robust 76% overall predictive accuracy across all designated reclamation status categories. Crucially for disaster risk reduction applications, the model demonstrated exceptional sensitivity toward high-risk degradation zones, achieving a 98% recall rate for successfully identifying areas vulnerable to canopy loss, vegetation stress, and potential geotechnical slope instability. To translate these predictive outputs into actionable management tools, the trained model and decision support pipeline were fully integrated into a web-based Geographic Information System (GIS) dashboard, enabling concession managers and regulatory authorities to visualize spatial risk zones interactively in near-real-time. The findings demonstrate that combining multitemporal satellite vegetation indices with machine learning classifiers provides a scalable, cost-effective methodology for monitoring post-mining land restoration. By facilitating early identification of site-specific vegetation decline before severe slope failure occurs, this early-warning framework strengthens evidence-based decision-making, mitigates environmental disaster risks, and advances regulatory compliance within Indonesia's national environmental governance and ecological restoration policy frameworks.

Keywords: post-mining reclamation, vegetation indices, landslide risk reduction, multilayer perceptron, sustainable development

Track: Public Administration



Mapping University Research and Community Service Partnerships: Implications for Sustainable Development and Performance

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Abstract

University partnerships are an important mechanism for extending the relevance and impact of research and community service. They can connect academic knowledge with industry, government, communities, and other stakeholders and thereby create opportunities to support sustainable development. This study aims to map research and community service partnerships in 2025 based on partner characteristics, geographical coverage, formalization through Memoranda of Agreement (MoA), and their associated Sustainable Development Goals (SDGs). A descriptive quantitative approach was applied to secondary administrative data managed by the Institute for Research and Community Service (LPPM) of Universitas Pembangunan Nasional Veteran Yogyakarta. Partnership activities were classified by activity type, industrial or non-industrial/general partner, and domestic or international partner. Frequencies and percentages were used to identify partnership patterns. The 2025 dataset contained 93 activities, comprising 57 research activities and 36 community service activities. Domestic partners accounted for 92.47% of activities, while non-industrial/general partners accounted for 73.12%. A formal MoA was recorded for 39 activities (41.94%). SDG 9, SDG 8, and SDG 2 were the most frequently associated goals. The study contributes an institutional mapping framework that combines activity type, partner characteristics, geographical coverage, formal partnership status, and SDG orientation. The results provide a baseline for partner diversification, internationalization, and more impact-oriented partnership management, although SDG and university performance achievements were not directly measured.

Keywords: partnership, research, community service, SDGs, university performance

Track: Agricultural Economics



Constraints in the Implementation of Post-Harvest Management Practices among Organic Rice Farmers in Karanganyar Regency, Central Java

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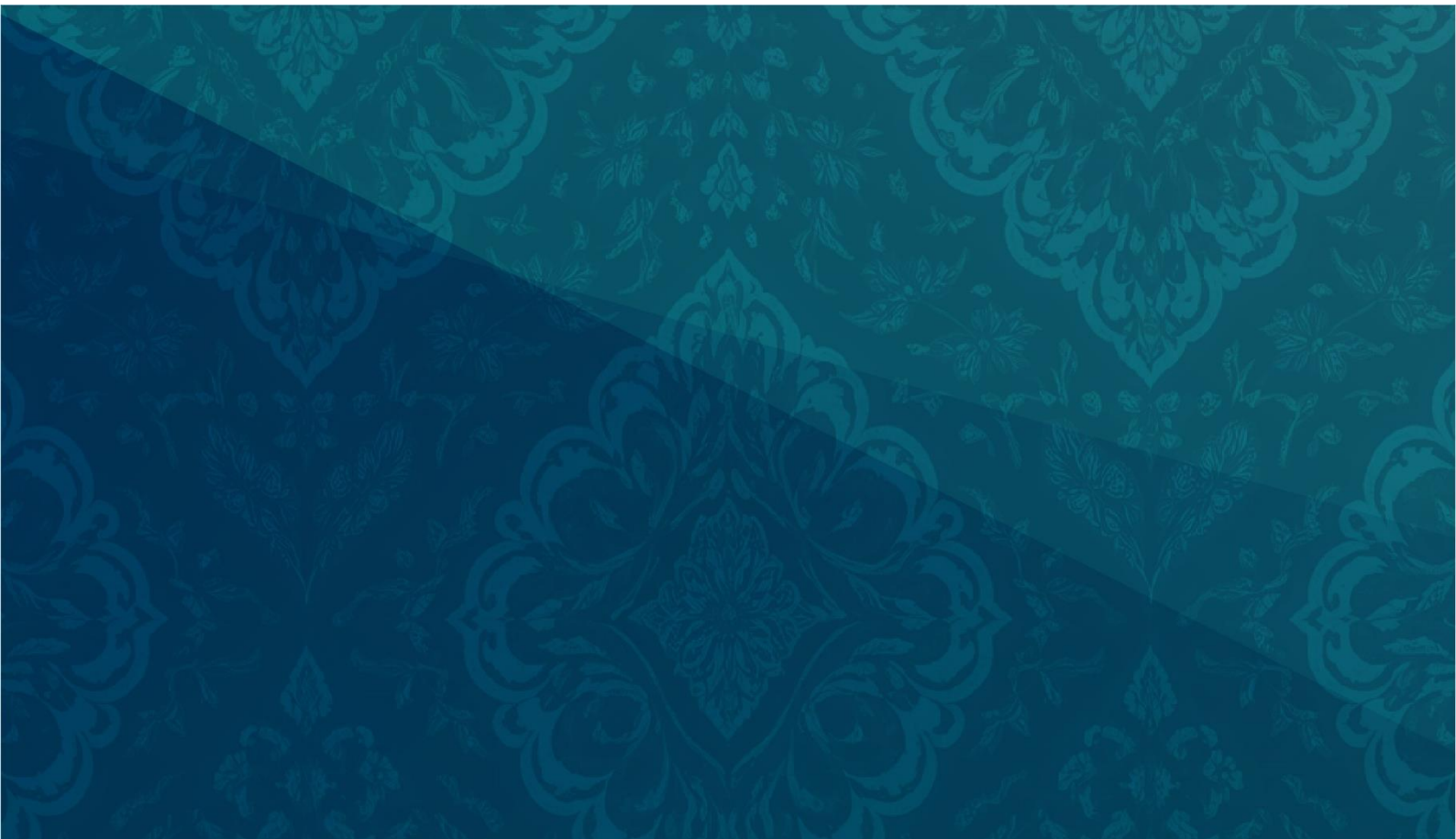
¹Universitas Pembangunan Nasional "Veteran" Yogyakarta

Abstract

Post-harvest management plays an important role in maintaining the quantity, quality, and market value of organic rice. However, organic rice farmers may encounter various technical, economic, infrastructural, and environmental constraints that limit the effectiveness of post-harvest handling. This study aimed to identify and analyze the constraints encountered by organic rice farmers in implementing post-harvest management practices in Karanganyar Regency, Central Java, Indonesia. A quantitative field survey was conducted from June to July 2026 involving 101 organic rice farmers from six farmer groups located in Mojogedang and Kerjo Districts. Respondents were selected using a snowball sampling technique. Data were collected through structured questionnaires consisting of 12 dichotomous indicators representing various constraints related to post-harvest information, equipment, pest occurrence, extension support, financial assistance, weather conditions, storage facilities, transportation, milling quality, pest-control practices, packaging technology, and product quality and marketability. Responses were re-coded so that a score of 1 consistently represented the presence of a constraint and 0 represented its absence. The results showed that pest attacks were the most frequently reported constraint, experienced by 81% of respondents. Other major constraints included limited development and improvement of post-harvest equipment (77%), limited availability of vacuum packaging technology (73%), insufficient financial support (72%), and unfavorable weather conditions (51%). In contrast, constraints related to milling quality (2%), access to post-harvest information (8%), extension and mentoring support (8%), and storage facilities (10%) were reported by relatively fewer farmers. These findings indicate that the major challenges in organic rice post-harvest management are predominantly related to pest management, technological availability, financial capacity, and environmental conditions. Strengthening access to appropriate post-harvest technologies, financial support, and organic-compatible pest management strategies is therefore important to improve the efficiency and sustainability of organic rice post-harvest management.

Keywords: food loss; post-harvest management; organic rice; sustainable agriculture; socio-economic characteristics

Track: Human Resources Management



Strategies to Strengthen the Global Competitiveness of Master of Management Graduates: A SWOT Analysis of X University

| Widhy Tri Astuti¹, Khoirul Hikmah¹, Titik Kusmantini¹, Herlina Dyah Kuswanti¹

¹Universitas Pembangunan Nasional "Veteran" Yogyakarta

Abstract

Competition among higher education institutions and rising demands regarding graduate competencies have positioned global competitiveness as a strategic priority for master's degree programs. The Master of Management (MM) Study Program at the Faculty of Economics and Business (FEB), X University aims to enhance the competitiveness of its graduates at the regional (ASEAN) level and achieve global recognition. This study aims to identify the internal and external factors influencing the enhancement of graduate global competitiveness and to formulate strategic alternatives using the SWOT matrix within a strategic management framework. A qualitative descriptive approach utilizing document analysis was employed, using 2024 Self-Evaluation Documents (DED) of the MM Study Program as main source of data. The results indicate that basically, the MM Study Program possesses a strong internal foundation, particularly regarding faculty quality, a responsive curriculum, academic-practitioner learning, networking, and international capabilities. However, certain areas require strengthening – specifically English language proficiency, international support, the integration of internationalization efforts, and the measurement of global graduate outcomes. These strengths and weaknesses, combined with opportunities and threats, were analyzed using a SWOT matrix to generate various strategic alternatives, that were synthesized into four priority strategies: global learning internationalization, global graduate competitiveness measurement, academic-industry differentiation, and efficient internationalization and learning pathways.

Keywords: global competitiveness, higher education internationalization, Master of Management, strategic management, SWOT matrix.

CLOSING SPEECH

Excellencies, Presenter, Attendees
Ladies and Gentlemen,

I am truly honored and delighted to deliver the closing remarks of the 3rd International Conference on Sustainable Research and Development (ICSRD-26), organized by Universitas Pembangunan Nasional “Veteran” Yogyakarta and Research Synergy Foundation.

The organizing committee is deeply grateful for the active engagement and enthusiastic participation of everyone throughout this two-day conference. All sessions have been successfully conducted, with enriching presentations, insightful discussions, and smooth coordination across all segments of our event.

This conference has showcased meaningful contributions from scholars and practitioners across multiple disciplines—demonstrating how collaborative and interdisciplinary approaches can drive sustainable solutions to global challenges.

The insightful presentations and constructive exchanges we have witnessed reflect our collective commitment to advancing research that integrates sustainability, innovation, and resilience. These discussions not only deepen our academic understanding but also open new pathways for cross-sectoral and international collaborations in the years ahead.

Beyond the sharing of research, ICSR-26 has served as a vibrant platform for building professional networks, fostering dialogue, and strengthening global partnerships among universities and researchers from Indonesia, Taiwan, Malaysia, Qatar, New Zealand, and beyond.

On behalf of the organizing committee, I extend my sincere appreciation to our distinguished keynote speakers, reviewers, session chairs, presenters, and participants for your invaluable contributions to this conference. I also express heartfelt thanks to the entire committee team for their tireless efforts and dedication in making ICSR-26 a great success.

Thank you once again for your active participation. We look forward to meeting you in our future conferences. Until then, I wish you continued success in your research and professional endeavors.

Best regards,

Dr. Sri Dwi Ari Ambarwati, S.E., M.Si.
Conference Chair of ICSR-26

Future Events



<https://bit.ly/UpcomingConference-RSF>

JICoSSH 2026

Jakarta International Conference on Social Science and Humanities

<https://jicossh.id/>

Virtual Conference - October 14, 2026

ICCDM 2026

2nd International Conference on Communication and Digital Multimedia (ICCDM 2026)

<https://iccdm-mmtc.com/>

Virtual Conference - October 21, 2026

7th MESS

7th International Conference on Management, Education, and Social Science

<https://messconference.com/>

Bangkok, Thailand - November 3, 2026

2nd ICBAS

2nd International Conference on Business and Administrative Sciences Research

<https://icbasconference.com/>

Virtual Conference – November 25, 2026

IHSATEC 2026: 19th HASIB

The International Halal Science and Technology Conference 2026 (IHSATEC): 19th Halal Science Industry and Business (HASIB)

<https://www.ihsatec.com/>

Bangkok, Thailand – December 2-3, 2026

JICRISD 2026

Jakarta International Conference on Research, Innovation, and Sustainable Development 2026

<https://jicrisd.com/>

Virtual Conference – December 8, 2026

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