Book of Abstract Conference Proceeding

The International Halal Science
and Technology Conference 2025 (IHSATEC)
: 18th Halal Science Industry and Business (HASIB)

THAILAND
HALAL
ASSEMBLY 2025

**International Conference
Bangkok, Thailand:**
December 18-19, 2025

Book of Abstract Conference Proceeding

The International Halal Science and Technology Conference 2025 (IHSATEC): 18th Halal Science Industry and Business (HASIB)

International Conference (Hybrid)
Venue: Al Meroz Hotel, Bangkok, Thailand
December 18-19, 2025

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The International Halal Science and Technology Conference 2025 (IHSATEC): 18th Halal Science Industry and Business (HASIB)

FOREWORD

The Halal Science Center Chulalongkorn University (HSC-CU)

Climate change, resource depletion, and growing sustainability expectations have transformed the global halal industry from a system focused primarily on religious compliance into one that must also demonstrate environmental responsibility, scientific credibility, and social accountability. In response to these emerging challenges, the Halal Science Center, Chulalongkorn University (HSC), presents a science-driven Green Halal paradigm that integrates halal integrity, advanced verification technologies, and green innovation across the entire halal ecosystem.

Established through a national policy mandate, HSC has pioneered the application of scientific methods to halal verification and assurance. Its multidisciplinary structure-encompassing halal forensic science, big data analytics, innovation incubation, and community learning-provides a unique foundation for advancing sustainable halal systems. Central to this framework are internationally accredited analytical laboratories (ISO/IEC 17025), the HAL-Q halal assurance and quality management system, the H Numbers scientific ingredient database, and their integration with artificial intelligence and blockchain technologies. Together, these platforms enable transparent verification, ingredient traceability, and risk-based decision-making while reducing unnecessary laboratory testing, chemical consumption, and resource waste.

Beyond verification, HSC actively advances green halal research and innovation through applied projects that align halal principles with environmental stewardship. These include smart halal agriculture with sensor-based resource optimization, green ingredient screening and substitution, waste-to-value product development, biodegradable and bio-based material design, and halal-compliant circular economy models. Through its Business Incubator of Halal Products and innovation learning networks, HSC translates scientific research into market-ready halal innovations that support SMEs, enhance product sustainability, and strengthen consumer trust.

This Green Halal ecosystem positions halal not merely as a certification mechanism, but as a science-based pathway toward sustainable production, resilient halal supply chains, and long-term competitiveness. By aligning halal integrity with green innovation and digital transformation, the Halal Science Center, Chulalongkorn University, contributes to Thailand's strategic role as a global leader in sustainable and trustworthy halal systems, in line with the vision and objectives of Thailand Halal Assembly 2025.

Research Synergy Foundation is a digital social enterprise platform that focuses on developing the Global Research Ecosystem towards outstanding global scholars. We build collaborative networks among researchers, lecturers, scholars, and practitioners globally for the realization of knowledge acceleration and to contribute more to society and humanity. As a social enterprise, our aim is to provide a good research ecosystem and platform for researchers to share, discuss, and disseminate their ideas. In addition, it helps you to improve your research and contribute to the knowledge. Therefore, creating social value and impact is our priority.

From 2017 to 2024, more than 35.000 scholars have participated in our programs from Asia, Australia, Africa, America, and Europe continents. With the average of the increasing number of members by more than 5.000 each year, we continuously strengthen the global research ecosystem by having five support systems that are ready to help members from across the world.

There are various agendas (work and program) that we have already done since 2017 up to present. The agendas are coming from all the support systems in the Global Research Ecosystem, named: Scholarvein, ReviewerTrack, Research Synergy Institute, Research Synergy Press, and Global Research Community. Research and publication cannot be seen as a separate part. Otherwise, we should take both as a comprehensive program. Moreover, the quality of the paper is the biggest concern for publication. To achieve the Organization/University/ Institution goal, we provide some agendas that can support you in research and publication enhancement. Some of the prominent agendas are:
1. International Conferences: It aims to create a "tipping point" of opportunities for participants to disseminate their research globally and have reputable scientific publication output.
2. Scientific and Academic Writing Coaching Clinics: It aims to provide a targeted and intensive learning strategy for publishing papers in high-impact Scopus/ WOS international journals.
3. Workshops: It aims to provide a vibrant learning forum to enhance the author's capability of scientific writing skills and the manuscript's quality.
4. Learning and Knowledge Sharing Programs: It aims to provide the best practice and guide from the experts, editors, and publishers' perspectives in research and publication enhancement.
5. Social Programs: It aims to empower and encourage society to share the value of creating an impactful program with us.

Research Synergy Foundation welcome all individuals, organizations/institutions (universities, governments, and private sectors) to be part of our Global Research Ecosystem.
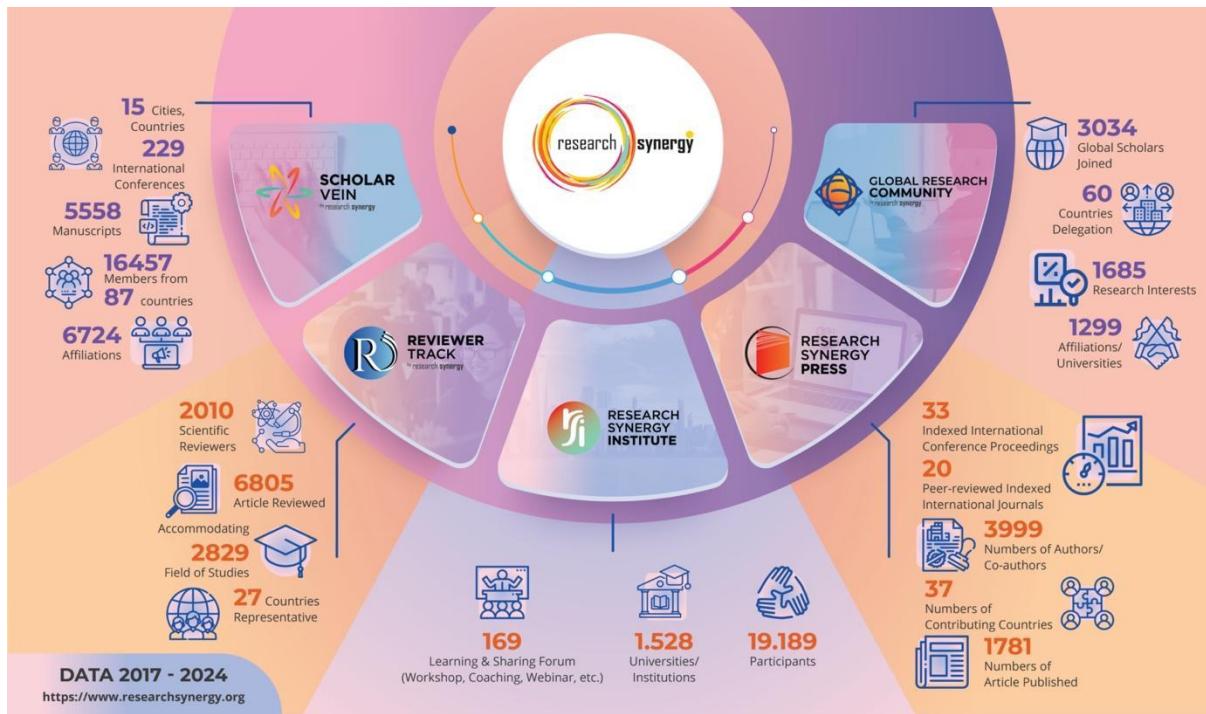
Figure: Global Research Ecosystem owned by Research Synergy Foundation (data from 2017 – 2024)

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ORGANIZING COMMITTEE

Conference Chair
Dr. Pornpimol Mahamad
Founding Director, The Halal Science Center Chulalongkorn University (HSCCU)

Co-Conference Chair
Assoc. Prof. Dr. Hendrati Dwi Mulyaningsih
Founder & CEO of Research Synergy Foundation

Organizing Committee

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The Halal Science Center Chulalongkorn University (HSCCU)

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Research Synergy Foundation

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Mufti Yousuf Abdul Razzaq
Vice chairman of National Standard Committee & Member of Pakistan Standard Quality Control Authority (PSQCA), Pakistan

Prof. Dr. Awis Qurni Sazili
Director, Halal Products Research Institute, Universiti Putra Malaysia (UPM), Malaysia

Assoc. Prof. Dr. Hendrati Dwi Mulyaningsih
Research Synergy Foundation, Indonesia

CONFERENCE CHAIR MESSAGE

The International Halal Science and Technology Conference 2025 (IHSATEC): 18th Halal Science Industry and Business (HASIB) is an international conference organized by The Halal Science Center Chulalongkorn University, Thailand and Research Synergy Foundation that is held hybrid on 18-19 December 2025, Onsite from Al Meroz Hotel, Bangkok, Thailand, and virtual through Zoom platform. Supported by Scholarvein, Reviewer Track, Research Synergy Institute, Research Synergy Press, Global Research Community, and F1000 Research.

We are delighted to welcome all participants of IHSATEC 2025: 18th HASIB, both onsite and virtually. This conference is designed to facilitate the exchange and sharing of thoughts and findings across various aspects of Halal Science and Technology, both in industry and business. Participants are welcome to present their work either physically or virtually during the Academic Session of Thailand Halal Assembly 2025.

We encourage all researchers, lecturers, students, practitioners, and academicians are to join this event to share insights and discoveries in the diverse subjects of Halal Science and Technology Management. This conference provides a global platform for the exchange of ideas, research, and collaborative opportunities, fostering a broader network and research ecosystem. Exclusive opportunities will be extended to all participants attending the conference.

We warmly greet you at this conference and hope that this year's conference will present both challenges and inspiration, encouraging the development of fresh knowledge, collaborations, and friendships.

Best regards,

Dr. Pornpimol Mahamad
Conference Chair of IHSATEC 2025: 18th HASIB

CONFERENCE CHAIR

Dr. Pornpimol Mahamad
Director, The Halal Science Center, Chulalongkorn University (HSC-CU)

Dr. Pornpimol Mahamad is the Director of the Halal Science Center at Chulalongkorn University (HSC-CU), Thailand, where she plays a key role in advancing scientific innovation to support halal assurance and industry standards. She holds a PhD in Biotechnology from Mahidol University, earned in 2015, and a Master's degree in Clinical Biochemistry and Molecular Medicine from Chulalongkorn University, following her undergraduate studies in Microbiology at Srinakharinwirot University.

Her expertise spans halal science and a wide range of molecular biology techniques, including recombinant DNA technology, molecular cloning, gene expression, bacterial transformation, and DNA amplification. Dr. Mahamad is also highly skilled in DNA and protein extraction and purification, as well as gel electrophoresis. Through her academic and professional work, she continues to contribute significantly to research, laboratory development, and the integration of biotechnology in halal science.

CO- CONFERENCE CHAIR

Assoc. Prof. Dr. Hendrati Dwi Mulyaningsih

Co-Conference Chair of IHSATEC 2025: 18th HASIB
Founder and Chief Executive Officer of Research Synergy Foundation

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 35.000 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 assistant 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.

WELCOMING REMARKS

Assoc. Prof. Dr. Pradermchai Kongkam
Assistant to the President of Chulalongkorn University, Thailand

Police Major General Surin Palarae
Secretary General of the Central Islamic Council of Thailand (CICOT)

OPENING REMARKS

H.E. İhsan ÖVÜT

Secretary General, The Standards and Metrology Institute for the Islamic Countries (SMIIC)

H.E. İhsan ÖVÜT is an expertise in OIC/SMIIC standards and standardization. He earned a B.Sc. in International Relations from the Faculty of Political Sciences at Ankara University, demonstrating a solid background in global policy and standardization systems.

H.E. Arun Boonchom

the Sheikhul Islam of Thailand

Mr. Surapong Numchairujipong

Vice Minister for Industry, Thailand

KEYNOTE SPEAKER

Assoc. Prof. Dr. Winai Dahlan
**Founder and Advisor to the Director,
The Halal Science Center, Chulalongkorn University (HSC-CU), Thailand**

Associate Professor Dr. Winai Dahlan is the Founding Director of The Halal Science Center at Chulalongkorn University (HSC). Concurrently, he is also the Vice President for the The Central Islamic Council of Thailand (CICOT) and the Chairman of the Halal Standard Insititue of Thailand (HSIT. He obtained his Ph.D. in Applied Medical Biology with a Magna Cum Laude from The Faculty of Medicine and Pharmacy St-Pierre Hospital, Université Libre de Bruxelles, Brussels, Belgium in 1989. Prior to that, he obtained the degree of M.S. Nutrition from the Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok, Thailand in 1982. Meanwhile, his B.Sc. Biochemistry was obtained from his study at Faculty of Science, Chulalongkorn University, Bangkok, Thailand in 1976.

His past experiences including:

- Member, The National Reform Steering Assembly (NRSA)
- Member, the National Reform Council (NRC)
- Dean, Faculty of Allied Health Sciences, Chulalongkorn University
- Member, The National Directive Board of Food, Ministry of Public Health
- Member, The Advisory Board of Food, FDA, Ministry of Public Health
- Chairman, Subcommittee on Carbohydrates and Proteins, The National Committee of Thailand Recommended Dietary Allowances, Ministry of Public Health
- Nutrition Advisor in International Events: The 13th Asian Games, The 7th Fespic Games, The 20th World Scout Jamboree, The 24th Summer Universiade Games
- Member, The Advisory Board of Deputy Prime Minister and Ministers

SCIENTIFIC/ACADEMIC TRAININGS & VISITS:

- > 300 visits and trainings in 50 countries.

PUBLICATIONS:

- ~ 350 books (in Thai)
- > 3,000 pieces of documentary articles in science/technology, food/nutrition in several Thai magazines since 1989
- > 50 reviewed scientific articles published internationally/locally
- > 40 original research articles published internationally/locally,

AWARDS & HONOURS:

- World Halal Day Lifetime Achievement Award 2017, London, United Kingdom by the United World Halal Development

- Listed as "The 500 Most Influential Muslims" of the years by the Royal Islamic Strategic Studies Centre, Jordan for 9 consecutive years of 2010-2019
- The National Award of Best Innovative Civil Services, Office of Public Sector Development Commission 2013
- The Royal Thai Decoration and Awards:
- The Bravery Medal, The Dushdi Mala. (2425 B.E.) esteemed achievement in science
- Knight Grand Cordon of the Most Noble Order of the Crown (Major General rank)
- The Chakrabarti Mala Medal (2436 B.E.)
- Best Innovation award, Halal Science & Innovation Excellence, World Halal Research Summit 2011, 2012, Kuala Lumpur, Malaysia
- Listed as "The 500 Most Influential Muslims" of the years by the Royal Islamic Strategic Studies Centre, Jordan for 8 consecutive years of 2010-2017
- Philippines' IDCP Recognition Award of Halal Achievement in Halal Science 2009
- Malaysia's Halal Journal Award of Best Innovation in Halal Industry 2006
- Alumnus of the Year 2009, Graduate Studies, Mahidol University, Bangkok, Thailand
- Alumnus of the Year 2005, Faculty of Science, Chulalongkorn University, Bangkok, Thailand

Lecturer of the Year 2001, Chulalongkorn University, Bangkok, Thailand

Dr. Pornpimol Mahamad
Director, The Halal Science Center, Chulalongkorn University (HSC-CU), Thailand

Dr. Pornpimol Mahamad is the Director of the Halal Science Center at Chulalongkorn University (HSC-CU), Thailand, where she plays a key role in advancing scientific innovation to support halal assurance and industry standards. She holds a PhD in Biotechnology from Mahidol University, earned in 2015, and a Master's degree in Clinical Biochemistry and Molecular Medicine from Chulalongkorn University, following her undergraduate studies in Microbiology at Srinakharinwirot University.

Her expertise spans halal science and a wide range of molecular biology techniques, including recombinant DNA technology, molecular cloning, gene expression, bacterial transformation, and DNA amplification. Dr. Mahamad is also highly skilled in DNA and protein extraction and purification, as well as gel electrophoresis. Through her academic and professional work, she continues to contribute significantly to research, laboratory development, and the integration of biotechnology in halal science.

SPEAKERS

Prof. Dr. Abdelaziz Bouras

Professor at College of Engineering,
Qatar University, Qatar

Professor A. Bouras has been conferred the HONORIS-CAUSA PhD in ICT and Knowledge Management by Her Royal Highness Princess Maha Chakri Sirindorn of Thailand in 2011. He is currently the Director of the Research Support Office of Qatar University. He is also Professor in Computer Science and the current Chair of the IFIP (International Federation of Information Processing) working group 5.1 on ICT for lifecycle management. Dr. Bouras was the holder of the ICT-Qatar Ministry Chair position and has been working at the Digital Incubation Center of the Ministry until Sept. 2016. Prior to that he was the Deputy Director of the DISP Research Laboratory at University of Lyon - France, and the Manager of the Innovation and Technology Transfer Center of the university. He coordinated dozens of international projects in Europe and in the Middle East and helped incubating Start-ups in both France and Qatar. His current research interests deal with Software Lifecycle Management and Information Systems, including Information Security and Blockchain for Supply Chains.

Mr. Munzel Fahd K. Almutairi

Kingdom of Saudi Arabia

Mr. Munzel Fahd K. Almutairi is a professional from the Kingdom of Saudi Arabia with an academic background in engineering, innovation, and intellectual property. He holds an MS in Service Leadership and Innovation from the Rochester Institute of Technology (RIT), USA, an LL.M. in Intellectual Property and Competition Law from the Munich Intellectual Property Law Center (MIPLC), Germany, and a BS in Mechanical Engineering from California State University, Fresno.

His areas of expertise include innovation management and technology incubation, intellectual property and patent law consulting, engineering education, entrepreneurship, and project management.

SPEAKERS

Prof. Rafia Mumtaz
Vice Chancellor, Kohsar University Murree, Pakistan

Professor Rafia Mumtaz is the Vice Chancellor of Kohsar University Murree, Pakistan. She earned her PhD in Remote Sensing and Satellite Image Processing from the University of Surrey, United Kingdom, in 2010, following a Master's degree in Software Engineering from the National University of Sciences and Technology (NUST), Islamabad, and a Bachelor's degree in Software Engineering from Fatima Jinnah University, Rawalpindi. Her areas of expertise include remote sensing, satellite image processing and GIS, the Internet of Things (IoT), and applications of artificial intelligence and machine learning.

SPEAKERS

Prof. Dr. Irwandi Jaswir

Dean for Academic, Research, and Publication at INHART, the International Islamic University Malaysia (IIUM), Malaysia

Prof. Dr. Irwandi Jaswir is a distinguished academic and researcher in the field of Food Chemistry and Biochemistry, currently serving as a Professor at the International Islamic University Malaysia (IIUM). With a career that spans over two decades, he has held various leadership roles, including Director and Deputy Dean of the International Institute for Halal Research and Training (INHART) at IIUM. Prof. Dr. Irwandi is also the Secretary of the IIUM Council of Professors and serves on numerous international boards, reflecting his prominent role in the academic and halal research communities.

He earned his Bachelor's degree in Food Technology and Human Nutrition from Bogor Agricultural University, Indonesia, followed by an M.Sc. in Food Science and Biotechnology from Universiti Pertanian Malaysia (UPM), and a Ph.D. in Food Chemistry and Biochemistry from UPM. Additionally, he has completed a Postdoctoral Fellowship in Lipid Biochemistry at the National Food Research Institute in Japan and participated in exchange programs at the University of British Columbia, Canada. His academic qualifications are complemented by a diploma in Islamic Revealed Knowledge from IIUM.

Prof. Dr. Irwandi has a wealth of research experience, focusing on halal science, food safety, and biochemistry. His work has led to significant contributions to the development of halal food standards and the detection of non-halal adulterants. He is the leader of several ongoing projects, including the development of portable halal detection devices and the production of halal fish collagen nanoparticles. Prof. Dr. Irwandi has been instrumental in securing and leading numerous research grants, contributing to the advancement of halal food technologies and food safety research.

As a consultant, Prof. Dr. Irwandi has worked with institutions such as the Saudi Food and Drugs Authority (SFDA) and various halal certification bodies, including his role as Chairman of the Korea-INHART Halal Certification Authority. His expertise extends to international collaborations, where he has contributed to research and industry partnerships across Malaysia, Saudi Arabia, Japan, and beyond. Prof. Dr. Irwandi's leadership and contributions continue to shape the future of halal food science and biochemistry globally.

SPEAKERS

Prof. Dr. Nazimah Hamid
Professor of Centre for Future Foods at Auckland University of Technology, New Zealand

Professor Dr. Nazimah Hamid is a Professor at the Centre for Future Foods, Auckland University of Technology, New Zealand. She earned her PhD in Food Science and an MSc in Food Biotechnology from the University of Strathclyde, United Kingdom, and a BSc (Hons) in Food Science from the University of Nottingham. Her areas of expertise include food and sensory science, food technology, and food chemistry.

Prof. Ir. Dr. Yus Aniza Yusof
Deputy Director, Halal Products Research Institute, Universiti Putra Malaysia (UPM), Malaysia

Professor Ir. Dr. Yus Aniza Yusof is the Deputy Director of the Halal Products Research Institute at Universiti Putra Malaysia (UPM), Malaysia. She earned her PhD and DIC in Chemical Engineering from Imperial College London, United Kingdom, in 2006, after completing her Master's and Bachelor's degrees in Chemical and Process Engineering at Universiti Kebangsaan Malaysia. Her areas of expertise include food material engineering, halal products development, and functional foods.

SPEAKERS

Dr. Nuttavut Kosem
Researcher Assistant Professor, Kyushu University, Japan

Dr. Nattavut Kosem is a Researcher at Kyushu University, Japan. He earned his PhD in Biopharmaceutical Sciences from the Department of Microbiology, Faculty of Pharmacy, Mahidol University, Thailand.

His areas of expertise include genetic engineering for biocatalyst development, enzyme immobilization in metal-organic frameworks, solar-to-chemical conversion through microbial biocatalytic activities, photobiocatalytic hydrogen production, and photobiocatalytic ammonia production.

Professor Dr. Mariko Arata
College of Gastronomy Management Director, Research Center for Gastronomic Arts and Sciences, Ritsumeikan University, Japan

Professor Dr. Mariko Arata is the Director of the College of Gastronomy Management and the Research Center for Gastronomic Arts and Sciences at Ritsumeikan University, Japan. She holds a PhD in Literature from Sokendai (The Graduate University for Advanced Studies), an MA in Linguistics from Tokyo University for Foreign Studies, and a BA in Liberal Arts from International Christian University.

Her areas of expertise include culinary anthropology and food culture research, halal food certification systems and Muslim dietary practices in Japan, and gastronomy management and sustainable food systems.

SPEAKERS

Dr Mohammed Najmuddin

Chief Researcher, Halal Research Laboratory, Chief Darul Hikma Tibb Nabawi, Founder Halal Herbal Remdies, CEO Dr Herbist LLP, India

Dr. Mohammed Najmuddin is the Chief Researcher at the Halal Research Laboratory and Chief of Darul Hikma Tibb Nabawi, as well as the Founder of Halal Herbal Remedies and CEO of Dr. Herbist LLP, India. He holds a PhD in Islamic Sciences from Trinity University, a Master's degree in Islamic Studies from Osmania University, and a Bachelor of Unani Medicine and Surgery (BUMS) from BR Ambedkar Bihar University.

His areas of expertise include halal pharmaceuticals and herbal product development, halal standards implementation and certification auditing, and Prophetic Medicine (Tibbe Nabawi) research and training.

Mr. Aleem Guiapal

DTI Halal Industry Development Office, Philippines

Mr. Aleem Guiapal represents the DTI Halal Industry Development Office in the Philippines. He holds a Master's degree in Development Management from the Asian Institute of Management and has completed executive education and fellowship programs at Michigan State University, American University, and the National University of Singapore.

His areas of expertise include halal industry ecosystem development, international trade promotion and investment missions, and economic development and government partnerships.

SPEAKERS

Eng. Moteb Al-Mezani

Director General, GCC Accreditation Center (GAC), Saudi Arabia

Eng. Moteb Al-Mezani is the Director General of the GCC Accreditation Center (GAC), Saudi Arabia. He holds a Master's degree in Instrumentation and Control Systems Engineering. His areas of expertise include halal accreditation and assessment of certification bodies, laboratory and inspection body evaluation, and international training.

Assist. Prof. Dr. Zahra Al-Kharousi

Lecturer, Food Microbiology and Biotechnology, College of Agricultural and Marine Sciences, Sultan Qaboos University, Oman

Assistant Professor Dr. Zahra Al-Kharousi is a Lecturer in Food Microbiology and Biotechnology at the College of Agricultural and Marine Sciences, Sultan Qaboos University, Oman. She earned her Bachelor's, Master's, and PhD degrees in Food Science and Nutrition from Sultan Qaboos University. Her areas of expertise include food science and nutrition, food microbiology and food safety, and antimicrobial resistance.

SESSION CHAIRS

Assist. Prof. Dr. Paradorn Sureepong

the Halal Science Center,
Chulalongkorn University (HSC-CU), Thailand

Dr. Pradorn Sureepong is appointed as Assistant Director, The Halal Science Center Chulalongkorn University, Thailand. He received his Bachelor of Engineering (Computer Engineering), from Faculty of Engineering, Chiang Mai University, Thailand and pursued to another level and received his Master of Economics from Faculty of Economic, Chiang Mai University, Thailand. He received his PhD for Dual Degree Program from Université Lumière Lyon 2, France and Chiang Mai University, Thailand in 2009. He has published many academic articles and remarkable writings.

Prof. Ts. Dr. Suraini Abd Aziz

Professor at Faculty of Biotechnology & Biomolecular Sciences,
Universiti Putra Malaysia

Professor Ts. Dr. Suraini Abd Aziz is a Professor at the Faculty of Biotechnology and Biomolecular Sciences, Universiti Putra Malaysia, with extensive expertise in biochemical engineering. Her academic and research work specializes in enzyme technology and industrial biotechnology, focusing on the application of biochemical processes for industrial and biotechnological advancement.

She completed her Doctor of Philosophy in Biochemical Engineering at the University of Wales Swansea, United Kingdom, between 1993 and 1997, following a Master of Science in Biochemical Engineering at the same institution. She earned her Bachelor's degree in Clinical Biochemistry from Universiti Kebangsaan Malaysia. Professor Suraini's research contributions support the development of efficient enzyme-based technologies and bioprocesses, bridging fundamental biochemical engineering with industrial applications. Through her role at Universiti Putra Malaysia, she continues to contribute to research excellence, innovation, and the training of future scientists in biotechnology and biomolecular sciences.

SESSION CHAIRS

Prof. Ir. Dr. Shahrir Abdullah
Universiti Kebangsaan Malaysia

Professor Ir. Dr. Shahrir Abdullah is a Professor at the Department of Mechanical and Materials Engineering, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia. He earned his PhD and MSc from the University of Wales Swansea, United Kingdom, and a Bachelor of Engineering in Mechanical Engineering from Universiti Kebangsaan Malaysia. His areas of expertise include computational fluid dynamics, automotive engineering, and thermal systems.

Asst. Prof. Dr. Pakpum Somboon
Lecturer, Bio-Electronic Research Laboratory (BERL),
Department of Electrical Engineering,
Chulalongkorn University, Thailand

Assistant Professor Dr. Pakpum Somboon is a Lecturer at the Bio-Electronic Research Laboratory (BERL), Department of Electrical Engineering, Chulalongkorn University, Thailand. He has a strong academic and research background at the intersection of biomedical engineering and electrical engineering.

Dr. Somboon earned his PhD in Physical Electronics from the Tokyo Institute of Technology, Japan, in 2007, after completing his Master's and Bachelor's degrees in Electrical Engineering at Chulalongkorn University. His expertise focuses on the application of electronic and engineering principles to biomedical systems, supporting innovation in bio-electronics and medical technologies. Through his role at BERL, he actively contributes to research, teaching, and the development of interdisciplinary engineering solutions in healthcare and life sciences.

SESSION CHAIRS

Prof. Dr. Muhammad Umair Arshad

Professor / Chairperson, Department of Food Science
Government College University, Faisalabad, Pakistan

Professor Dr. Muhammad Umair Arshad is a Professor and Chairperson of the Department of Food Science at Government College University, Faisalabad, Pakistan. He completed his postdoctoral training in Food and Nutrition at the University of Toronto, Canada, in 2016, and earned his PhD, MSc (Hons), and BSc (Hons) from the University of Agriculture, Faisalabad.

His areas of expertise include regulations related to health claims and food labeling, food intake and appetite, glycemic responses of foods with a focus on dairy products and components, and food fortification strategies.

Dr. Jirachaya Yeemin

Ramkhamhaeng University, Thailand

Dr. Jirachaya Yeemin is an academic at Ramkhamhaeng University, Thailand. She earned her Bachelor of Science in Biology from Chulalongkorn University, Bangkok, and completed her PhD in Horticulture and Agronomy at the University of California, Davis, USA, in 2023. Her areas of expertise include the molecular basis of plant–microbe interactions, plant bacteriology, plant physiology, plant immunity, plant diseases, and stomatal immunity.

SESSION CHAIRS

Dr. Adil Siripatana
University of Edinburgh, United Kingdom

Dr. Adil Siripatana is a Research Associate in Flood Modelling at the School of Engineering, University of Edinburgh, United Kingdom. His areas of expertise include uncertainty quantification for flood and ocean modelling, data assimilation techniques, and the application of AI and hybrid modeling for environmental prediction systems.

He holds a PhD in Earth Sciences and Engineering from King Abdullah University of Science and Technology (KAUST), Saudi Arabia. He also earned a Master's degree in Earth Sciences and Engineering from KAUST, and a Bachelor of Science (Honours) in Computational Sciences from Walailak University, Thailand.

Assist. Prof. Dr. Pradorn Sureephong
The Halal Science Center, Chulalongkorn University (HSC-CU), Thailand

Dr. Pradorn Sureepong is appointed as Assistant Director, The Halal Science Center Chulalongkorn University, Thailand. He received his Bachelor of Engineering (Computer Engineering), from Faculty of Engineering, Chiang Mai University, Thailand and pursued to another level and received his Master of Economics from Faculty of Economic, Chiang Mai University, Thailand. He received his PhD for Dual Degree Program from Université Lumière Lyon 2, France and Chiang Mai University, Thailand in 2009. He has published many academic articles and remarkable writings.

Prof. Dr. Abdelaziz Bouras

**Professor at College of Engineering,
Qatar University, Qatar**

Professor A. Bouras has been conferred the HONORIS-CAUSA PhD in ICT and Knowledge Management by Her Royal Highness Princess Maha Chakri Sirindorn of Thailand in 2011.

He is currently the Director of the Research Support Office of Qatar University. He is also Professor in Computer Science and the current Chair of the IFIP (International Federation of Information Processing) working group 5.1 on ICT for lifecycle management. Dr. Bouras was the holder of the ICT-Qatar Ministry Chair position and has been working at the Digital Incubation Center of the Ministry until Sept. 2016. Prior to that he was the Deputy Director of the DISP Research Laboratory at University of Lyon - France, and the Manager of the Innovation and Technology Transfer Center of the university. He coordinated dozens of international projects in Europe and in the Middle East and helped incubating Start-ups in both France and Qatar. His current research interests deal with Software Lifecycle Management and Information Systems, including Information Security and Blockchain for Supply Chains.

Dr. Simab Kanwal

Researcher at the Institute of Biotechnology and Genetic Engineering, Chulalongkorn University, Thailand

Dr. Simab Kanwal is a Researcher at the Institute of Biotechnology and Genetic Engineering, Chulalongkorn University, Thailand. She earned her PhD in Biochemistry and Molecular Biology from Chulalongkorn University and completed postdoctoral training at Chulalongkorn University and Mahidol University. Her areas of expertise include biochemistry, molecular biology, fundamentals of biotechnology, enzyme technology, and microbial biotechnology.

Prof. Dr. Jawad Alzeer

University of Zurich, Dübendorf, Zurich, Switzerland

Professor Dr. Jawad Alzeer is an academic at the University of Zurich, Dübendorf, Zurich, Switzerland. He earned his PhD in Organic Chemistry with a focus on carbohydrate chemistry in 1996, followed by postdoctoral training in Medicinal Chemistry in 1998. He has also served as a Research Scientist at the University of Michigan, Ann Arbor, USA, in 2000, and at the Institute of Molecular Cancer Research, Zurich, Switzerland, in 2006.

His areas of expertise include nucleic acid chemistry, medicinal and organic chemistry, and natural products, with a focus on halalopathic research. His academic and research background reflects a strong foundation in chemical sciences and interdisciplinary research.

Asst. Prof. Dr. Muhammad Sajid Arshad

School of Agriculture, Food and Ecosystem Sciences, The University of Melbourne, Australia

Assistant Professor Dr. Muhammad Sajid Arshad is is a Postdoctoral Research Associate in Food Science and Nutrition (Food Chemistry) at the School of Agriculture, Food and Ecosystem Sciences, The University of Melbourne. His research expertise encompasses food chemistry, functional foods, halal authentication, and sustainable food packaging technologies. He obtained his Ph.D. in Food Science from the National Institute of Food Science and Technology (NIFSAT), University of Agriculture, Faisalabad, Pakistan, in 2013, following an MS in Food Science and Technology (2009) and a BS in Agriculture majoring in Food Technology (2007) from the same institution. His academic work focuses on advancing innovative and sustainable solutions in food quality, safety, and authenticity.

JUDGING COMMITTEE

Prof. Dr. Nancy Dewi Yuliana
Food Science and Technology, Bogor Agricultural University, Indonesia

Professor Dr. Nancy Dewi Yuliana is a Professor in Food Science and Technology at Bogor Agricultural University, Indonesia. She earned her PhD in Pharmacognosy from Leiden University, The Netherlands, in 2011, following a Master's degree in Pharmacognosy from the same university. She also completed postdoctoral research at the National Food Research Institute, Tsukuba, Japan, from 2014 to 2015.

Her areas of expertise include food metabolomics for food quality control, bioactive compounds exploration, and halal food authentication. Her academic and research background reflects a strong focus on analytical approaches in food science and the study of bioactive components.

Prof. Ir. Dr. Muhamad Nadratuzzaman Hosen
Syarif Hidayatullah State Islamic University, Indonesia

Professor Ir. Dr. Muhamad Nadratuzzaman Hosen is an academic at Syarif Hidayatullah State Islamic University, Indonesia. He holds a Doctor of Philosophy in Economics from the University of New England, Australia, earned in 2001, following a Master of Economics from the same university. His academic background also includes postgraduate studies at Bogor Agricultural University and advanced studies in Human Ecology at Vrije Universiteit Brussel (VUB), Belgium, as well as a Bachelor's degree from the Faculty of Animal Husbandry, Bogor Agricultural University.

His areas of expertise include Islamic economics and Islamic social finance, as well as sharia governance and supervision in Islamic banking and finance.

Dr. Aifa Rozaini Mohd Radzol
Universiti Teknologi Mara (UiTM)

Aifa Rozaini is a senior lecturer at the business school in Universiti Teknologi MARA (UITM) Kelantan branch. Her expertise and interest focus to the management, marketing, consumer research and entrepreneurship with a strong research focus on the marketing and management related researches. Prior to the current job, she was attached as a senior lecturer at the tourism school thus this expose her to some knowledge of tourism field that can be integrate with the business perspectives. Her work addresses behaviour studies including tourist behaviour, service marketing, consumer behaviour and now she is putting some effort to know further on urban poverty issues. As a dedicated member of the Institute of Marketing Malaysia (IMM) she actively contributes to academic discourse and serves as a blind peer reviewer for esteemed international journals, ensuring the integrity and quality of scholarly publications.

Setyowati Triastuti Utami , Ph.D.
Universitas Gadjah Mada

Setyowati Triastuti Utami is a lecturer at Faculty of Pharmacy of Universitas Gadjah Mada, Yogyakarta, Indonesia. At the Department of Pharmaceutical Chemistry of Universitas Gadjah Mada, She researches and implementing her knowledge on data science and molecular microbiology. She is also active as a member of Research Synergy Foundation (RSF) where she is enjoying learning and implementing her knowledge of scientific writing. She graduated from Tokyo Institute of Technology, Japan, with master and doctoral degree majoring in molecular biology. Prior to joining Universitas Gadjah Mada, Setyowati was working in Metabologenomics, inc performing gut microbiota design and data science. Moreover, Currently she is the Managing Editor of Journal Health and Biomedical Science (JHBS).

JUDGING COMMITTEE

Prof. Dr. Ir. Damat, MP, IPM
University of Muhammadiyah Malang, East Java, Indonesia

Professor Dr. Ir. Damat, MP, IPM is an academic at the University of Muhammadiyah Malang, East Java, Indonesia. He earned his Doctorate (PhD) in Food Science from Gadjah Mada University (UGM) in 2009, following a Master's degree in Plantation Product Technology from UGM in 1996 and a Bachelor's degree in Agricultural Industrial Technology from Bogor Agricultural University (IPB) in 1989.

His areas of expertise include Islamic economics and Islamic social finance, as well as sharia governance and supervision in Islamic banking and finance. In addition, his expertise covers functional food products and halal food certification support for food and beverage industries.

Mr. Çağrı Cankurtaran
Secretary of the SMIIC Committee on Standards for Conformity Assessment

Mr. Çağrı Cankurtaran is the Secretary of the SMIIC Committee on Standards for Conformity Assessment. He is professionally engaged in the development and implementation of standards related to conformity assessment and quality assurance frameworks.

His areas of expertise include halal standards and conformity assessment, ISO management systems auditing (ISO 9001, ISO 14001, ISO 45001, and ISO 22000), as well as food safety and quality inspection. He holds a Bachelor of Science in Food Engineering from Ege University, earned in 2004, and a Master's degree in Management completed in 2007. Mr. Cankurtaran is currently a PhD candidate in Business Administration.

Prof. Ir. Dr. Shahrir Abdullah
Universiti Kebangsaan Malaysia

Prof. Ir. Dr. Shahrir Abdullah is a faculty member at the Department of Mechanical and Materials Engineering, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia. His academic work is centered on engineering analysis and applied mechanical systems.

His areas of expertise include computational fluid dynamics, automotive engineering, and thermal systems. He earned his Ph.D. in Mechanical Engineering from the University of Wales Swansea, United Kingdom, completing his doctoral studies between 1993 and 1997. He previously obtained a Master of Science in Design and Economic Manufacture from the same university during the 1992–1993 period, following a Bachelor of Engineering in Mechanical Engineering from Universiti Kebangsaan Malaysia, which he completed between 1988 and 1992.

CONFERENCE PROGRAM

Thursday – Friday | December 18-19 2025

THAILAND HALAL ASSEMBLY 2025

INTERNATIONAL CONFERENCE
งานประชุมวิชาการด้านวิทยาศาสตร์ และนวัตกรรมฮาลาลนานาชาติ
18–19 DECEMBER 2025 at Al Meroz Hotel Bangkok

Tentative Conference Program

Day 0: December 17, 2025 (WEDNESDAY)	
14:00 – 20:00	Arrival of delegates

Day 1: December 18, 2025 (THURSDAY)	
Time	**Grand Meroz Room** **IHSATEC2025; 18th HASIB**
08:00 – 09:00	Registration of delegates
09:00 – 10:00	**Grand Opening Ceremony**
09:00 – 09:05	• Welcoming Remarks by the MC to the Thailand Halal Assembly 2025 (THA2025) • The Royal Portrait of Her Majesty Queen Sirikit the Queen Mother is displayed, and **a one-minute moment of silence** in profound remembrance of Her Majesty.
09:05 – 09:15	• Recitation of the Holy Al-Quran
09:15 – 09:20	• Opening Ceremony presentation
09:20 – 09:30	• **Welcoming Remarks by Assoc. Prof. Dr. Pradermchai Kongkam,** Assistant to the President of Chulalongkorn University, Thailand
09:30 – 09:40	• **Welcoming Remarks by Police Major General Surin Palarae,** Secretary General of the Central Islamic Council of Thailand (CICOT)
09:40 – 09:50	• **Report Notes by Dr. Pornpimol Mahamad**, Director, The Halal Science Center, Chulalongkorn University (HSC-CU)
09:50 – 10:00	• **Opening Remarks by H.E. Mr. İhsan ÖVÜT, Co-Chairman of the Ceremony,** Secretary General, The Standards and Metrology Institute for the Islamic Countries (SMIIC)
10:00 – 10:10	• **Opening Remarks by Co-Chairman of the Ceremony, H.E. Arun Boonchom,** the Sheikhul Islam of Thailand
10:10 – 10:20	• **Opening Remarks by Chairman of the Ceremony, Mr. Surapong Numchairujipong**, Vice Minister for Industry, Thailand
10:20 – 10:30	• **Opening Ceremony** • **Chairman of the Ceremony** receiving a token of appreciation • **Photo Sessions**
10:30 – 10:45	• **Signing Ceremony** of MOU/MOA
10:45 – 11:00	**Exhibition visit by the Chairman of the Ceremony**
	Tea/Coffee Break
11:00 – 11:30	**Keynote Session** **Topic: Green Halal: Beyond Sustainability**
11:00 – 11:15	**Keynote Speaker: Assoc. Prof. Dr. Winai Dahlan**, Founding Director, The Halal Science Center, Chulalongkorn University (HSC-CU), Thailand
11:15 – 11:30	**Keynote Speaker: Dr. Pornpimol Mahamad**, Director, The Halal Science Center, Chulalongkorn University (HSC-CU), Thailand **Group Photo session**

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18–19 DECEMBER 2025 at Al Meroz Hotel Bangkok

THAILAND HALAL ASSEMBLY 2025

Day 1: December 18, 2025 (THURSDAY)	
11:30 – 12:45	**Session 1:** **Green Halal and Artificial Intelligence - Shaping a Sustainable and Smart Halal Industry**
11:30 – 11:35	**Chairperson: Assist. Prof. Dr. Pradorn Sureephong,** Assistant Director, the Halal Science Center, Chulalongkorn University (HSC-CU), Thailand
11:35 – 11:50	**Speaker 1: Prof. Dr. Abdelaziz Bouras,** Professor, College of Engineering, Qatar University, Qatar **Title:** *"Sustainable Intelligence: Integrating Green Digital Twins within Lifecycle Frameworks"*
11:50 – 12:05	**Speaker 2: Mr. Munzel Fahd K. Almutairi,** Kingdom of Saudi Arabia **Title:**
12:05 – 12:20	**Speaker 3: Prof. Rafia Mumtaz,** Vice Chancellor, Kohsar University Murree, Pakistan **Title:** *"From Compliance to Innovation: Accelerating Green Technologies in the Halal Ecosystem through IoT and AI"* **Panel Discussion, Question and Answer session**
12:20 – 12:35	**Group Photo session**
12:35 – 14:00	Lunch and Dhuhr Prayer

Time	Grand Meroz Room IHSATEC2025; 18th HASIB	Time	Rifaee Room IMT-GT Workshop	Time	Exhibition Zone Young Halal Innovators Project
14:00 – 15:00	**Session 2:** **Green Science and Technology – Driving Sustainable Innovation**	**13:30 – 16:00**	**International Workshop on Targeted Halal Products and Services (WGHAPAS) Indonesia–Malaysia– Thailand Growth Triangle (IMT-GT) Framework**	**13:30 – 14:30**	**Young Halal Innovators Project Presentation**
14:00 – 14:05	**Chairperson: Prof. Ts. Dr. Suraini Binti Abd Aziz** Professor at Faculty of Biotechnology & Biomolecular Sciences, Universiti Putra Malaysia				**Mentor 1: Professor Dr. Mariko ARATA,** College of Gastronomy Management Director, Research Center for Gastronomic Arts and Sciences, Ritsumeikan University, Japan
14:05 – 14:20	**Speaker 1: Prof. Dr. Nazimah Hamid,** Professor of Centre for Future Foods at Auckland University of Technology, New Zealand **Title:** *"Green Valorisation: Driving Sustainable Innovation through Food Processing Waste Transformation"*				**Mentor 2: Prof. Dr. Muhammad Umair Arshad,** Professor / Chairperson, Department of Food Science Government College University,
14:20 – 14:35	**Speaker 2: Prof. Ir. Dr. Yus Aniza Yusof,** Deputy Director, Halal Products Research Institute, Universiti				

Time	Grand Meroz Room IHSATEC2025; 18th HASIB	Time	Rifaee Room IMT-GT Workshop	Time	Exhibition Zone Young Halal Innovators Project
	Putra Malaysia (UPM), Malaysia **Title:** *"Green Science and Technology: Integrating Sustainability, Halal Integrity, and Functional Food Innovation"*				Faisalabad, Pakistan
14:35 – 14:50	**Speaker 3: Dr. Nuttavut Kosem**, Researcher Assistant Professor, Kyushu University, Japan **Title:** *"Hydrogenase: Unlocking Nature`s Secret for Green Hydrogen"*				
14:50 – 15:00	**Panel Discussion, Question and Answer session, Group Photo session**				
15:00 – 15:45	**Session 3: Oral Presentation (OP)-1** **AI, Blockchain and Business** *(8 min presentation + 2 min Q&A)*				
15:00 – 15:10	**Global Research Ecosystem Introduction by Assoc. Prof. Dr. Hendrati Dwi Mulyaningsih,** Chief Executive Officer, Research Synergy Foundation, Indonesia **Chairperson 1: Prof. Ir. Dr. Shahrir Abdullah,** Department of Mechanical and Materials Engineering, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia **Chairperson 2: Asst. Prof. Dr. Pakpum Somboon,**				

Time	Grand Meroz Room IHSATEC2025; 18th HASIB	Time	Rifaee Room IMT-GT Workshop	Time	Exhibition Zone Young Halal Innovators Project
	Lecturer, Bio-Electronic Research Laboratory (BERL), Department of Electrical Engineering, Chulalongkorn University, Thailand				
15:10 – 15:20	Academic presenter: **1. Paper ID: HST25162** **Presenter:** Pg Siti Rozaidah Pg Hj Idris, Universiti Brunei Darussalam, Brunei Darussalam **Title:** Halal Integrity in Heavy Industry: A Governance–Leadership–Sustainability Model for Hengyi Petrochemical Complex				
15:20 – 15:30	**2. Paper ID: 275502** **Presenter: Ms. Farahidah Mohamed,** International Islamic University Malaysia, Malaysia Title: Developing a User-Friendly Reference for Halal-Certified Pharmaceuticals in Malaysian Healthcare				
15:30 – 15:40	**3. Paper ID:** HST25133 **Presenter:** Dr.Siti Fatimahwati Pehin Dato Musa, Universiti Brunei Darussalam, Brunei Darussalam **Title:** Halal and Tayyiban Food Security: Towards an Ethical and Sustainable Global Food System				

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THAILAND HALAL ASSEMBLY 2025

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Time	Grand Meroz Room IHSATEC2025; 18th HASIB	Time	Rifaee Room IMT-GT Workshop	Time	Exhibition Zone Young Halal Innovators Project
15:40 – 15:45	**4. Paper ID: HST25132** **Presenter: Mr. Dion Aditya,** Institut Teknologi PLN, Indonesia Title: Multi-Scene Vision–Language and Local LLM Pipeline for Suspicious Behavior Detection in Mosques				
15:45 – 15:55	Group Photo session				
15.45 – 16.00	Tea/Coffee Break	**15.00 – 15.15**	Tea/Coffee Break/ Poster Viewing		

Time	Grand Meroz Room IHSATEC2025; 18th HASIB	Time	Rifaee Room IMT-GT Workshop
16.00 – 17.00	Session 4: Oral Presentation (OP)-2 Science, Technology, and Innovation *(8 min presentation + 2 min Q&A)*	13:30 – 16:00	International Workshop on Targeted Halal Products and Services (WGHAPAS) Indonesia–Malaysia–Thailand Growth Triangle (IMT-GT) Framework *(Continuous)*
16:00 – 16:05	**Welcoming Academic Presentation** **Chairperson 1: Prof. Dr. Muhammad Umair Arshad,** Professor / Chairperson, Department of Food Science Government College University, Faisalabad, Pakistan **Chairperson 2: Dr. Jirachaya Yeemin,** Department of Biology, Faculty of Science, Ramkhamhaeng University, Thailand		
16:05 – 16:15	Academic presenter: **5. Paper ID: HST25127** **Presenter: Dr. Maharani Retna Duhita,** UIN Maulana Malik Ibrahim Malang, Indonesia Title: An Integrated Computational Approach to Identify Xanthine Dehydrogenase (XDH) Inhibitors from Ardisia elliptica: Network Pharmacology and Molecular Simulation in The Context of Halal Herbal Therapy		
16:15 – 16:25	**6. Paper ID: HST25106**		

Time	Grand Meroz Room IHSATEC2025; 18th HASIB	Time	Rifaee Room IMT-GT Workshop
	Presenter: Mrs. Syahrul Anis Hazwani Mohd Baroyi, The Halal Products Research Institute, Universiti Putra Malaysia, Malaysia Title: Hybrid Extraction Optimization of Moringa oleifera Leaves Protein		
16:25 – 16:35	**7. Paper ID: HST25116** **Presenter: Ms. Laiba Pervez,** Chulalongkorn University, Thailand Title: Comparative Analysis of Gut Microbiota in Post-Mortem Chronic Alcoholics versus Minimal to No Alcohol Users in the Thai Population		
16:35 – 16:45	**8. Paper ID: HST25138** **Presenter: Assoc Prof. Nor Qhairul Izzreen Mohd Noor**, Universiti Malaysia Sabah, Malaysia Title: Development and Validation of HPLC-UV Method for Umami Nucleotides Analysis for Halal Ingredient Development using Hericium erinaceus		
16:35 – 16:45	**9. Paper ID: HST25112** **Presenter: Prof. Farhan Saeed,** The Government College University, Faisalabad, Pakistan Title: Gelation of Maize Bran Arabinoxylan (Hydrogel) Through the Application of Laccase in Relation to Its End-Use Perspectives		
16:35 – 16:45	Group Photo session		
16:45 – 16:55			
19:00 - 20:30	**Welcoming Dinner**		

Day 2: December 19, 2025 (FRIDAY)

Time	Grand Meroz Room I IHSATEC2025; 18th HASIB	Time	Grand Meroz Room II IHSATEC2025; 18th HASIB	Time	Rifaee Room Green Halal Workshop
08:30 – 09:00	Registration of delegates				
09:00 – 10:30	**Session 5:** **Global Perspectives – Halal Experiences from Non-Muslim Countries**	09:00 – 10:30	<mark>**Session 6:**</mark> <mark>**Oral Presentation (OP)-3**</mark> **AI, Blockchain and Business** *(8 min presentation + 2 min Q&A)*	09:00 – 12:00	**Green Halal Workshop** **"Green Halal Make-Your-Own Beauty"**
09:00 – 09:05	**Chairperson: Dr. Adil Siripatana,** Research Associate in Flood Modelling, School of Engineering, University of Edinburgh, United Kingdom	09:00 – 09:05	**Welcoming Academic Presentation** **Chairperson 1: Assist. Prof. Dr. Pradorn Sureephong,** Assistant Director, the Halal Science Center, Chulalongkorn University (HSC-CU), Thailand		**Lecture: Fundamentals of Oil-Based Skin Care, Aroma Body Oil and Lipstick Formulation**
09:05 – 09:20	**Speaker 1: Professor Dr. Mariko ARATA,** College of Gastronomy Management Director, Research Center for Gastronomic Arts and Sciences, Ritsumeikan University, Japan Title: *"Serving Foods to Muslim Tourists in Japan: Practical Challenges and Understanding of Halal in the Japanese Context"*		**Chairperson 2: Prof. Dr. Abdelaziz Bouras,** Professor, College of Engineering, Qatar University, Qatar Academic presenter:		**Workshop Sessions:** • Aroma Anti-aging Body Oil Workshop • Personalized Organic Lipstick Workshop
09:20 – 09:35	**Speaker 2: Dr Mohammed Najmuddin,** Chief Researcher, Halal Research Laboratory, Chief Darul Hikma Tibb Nabawi, Founder Halal Herbal Remdies, CEO Dr Herbist LLP, India Title: *"Non-Halal Ingredients in Herbal Formulations and Possible Alternatives"*	09:05 – 09:15	**11. Paper ID: HST25147** **Presenter: Mr. Andi Subhan Husain,** Chulalongkorn University, Thailand Title: From Purity to Justice: Rethinking Digital Halal Governance as a Political-Theological Project in the IMT-GT Corridor		**Speaker: Ms.Warinda Sricharoen,** Chief Executive Officer, Herbal-Studio Co., Ltd.
09:35 – 09:50	**Speaker 3: Mr. Aleem Guiapal** DTI Halal Industry Development Office, Philippines Title:	09:15 – 09:25	**12. Paper ID: 468384** **Presenter:** Muhammad Hisyam Syafii, Universitas Muhammadiyah Yogyakarta, Indonesia		*Note: Limited to registered participants with workshop fee.*
09:50 – 10:10	**Panel Discussion, Question and Answer session**		Title: The Role of Metacognitive Awareness in Green Technology-Mediated Learning: Implications for Environmental Education and		
10:10 – 10:20	**Group Photo session**				

Time	Grand Meroz Room I IHSATEC2025; 18th HASIB	Time	Grand Meroz Room II IHSATEC2025; 18th HASIB	Time	Rifaee Room Green Halal Workshop
		09:25 – 09:35	Students' Ecological Intelligence **13. Paper ID: HST25109** **Presenter: Mr. Fajar Azhari Julian,** Universitas Ary Ginanjar, Indonesia Title: Optimizing Halal Zone Layouts in Industrial Estates for Warehousing and Distribution: A Spatial Modeling Approach Utilizing QGIS		
		09:35 – 09:45	**15. Paper ID:** **Presenter:** Title:		
		09:45 – 09:55	**16. Paper ID:** **Presenter:** Title:		
		09:55 – 10:05	**17. Paper ID:** **Presenter:** Title:		
		10:05 – 10:15	Group Photo session		
		10:15 – 10:25			
10:30 – 10:45	Tea/Coffee Break/ Poster Viewing				

Time	Grand Meroz Room I IHSATEC2025; 18th HASIB	Time	Grand Meroz Room II IHSATEC2025; 18th HASIB	Time	Green Halal Workshop
10:45 – 12:00	<mark>Session 8:</mark> <mark>Oral Presentation (OP)-4</mark> Science, Technology, and Innovation *(8 min presentation + 2 min Q&A)*	10:45 – 12:00	<mark>Session 9:</mark> <mark>Oral Presentation (OP)-5</mark> Science, Technology, and Innovation *(8 min presentation + 2 min Q&A)*	09:00 – 12:00	**Green Halal Workshop** *(Continuous)*
10:45 – 10:50	**Welcoming Academic Presentation** **Chairperson 1: Prof. Ts. Dr. Suraini Binti Abd Aziz** Professor at Faculty of Biotechnology & Biomolecular Sciences, Universiti Putra Malaysia **Chairperson 2: Dr. Simab Kanwal,** Researcher at the Institute of Biotechnology and Genetic Engineering, Chulalongkorn University, Thailand	10:45 – 10:50	**Welcoming Academic Presentation** **Chairperson 1: Prof. Dr. Jawad Alzeer,** Lecturer & Senior Researcher, University of Zurich, Dübendorf, Zurich, Switzerland **Chairperson 2: Asst. Prof. Dr. Muhammad Sajid Arshad,** School of Agriculture, Food and Ecosystem Sciences, The University of Melbourne, Australia		*Note: Limited to registered participants with workshop fee.*
10:50 – 11:00	Academic presenter: **18. Paper ID: HST25107** **Presenter: Ms. Nor Atikah Husna Nasir,** The Halal Products Research Institute, Universiti Putra Malaysia, Malaysia Title: Development and Characterization of Halal Caulerpa lentillifera-Fortified Jelly with Enhanced Nutritional and Antioxidant Properties	10:50 – 11:00	Academic presenter: **24. Paper ID: HST25143** **Presenter: Assoc Prof. Paula Mariana Kustiawan,** Universitas Muhammadiyah Kalimantan Timur Title: Halal Integrity Challenges in Stingless Bee Derived Products: A Review of Processing, Solvents, and Supply Chain Risks		
11:00 – 11:10	**19. Paper ID: HST25139** **Presenter: Ms. Umi Hartina Mohamad Razali,** Universiti Malaysia Sabah, Malaysia Title: Advancing Halal Functional Ingredients through Green Production of ACE-Inhibitory Peptides from Marine Collagen	11:00 – 11:10	**25. Paper ID: HST25148** **Presenter: Ms. Rahil Aufa, Gadjah Mada University, Indonesia** Title: Paramylon Production Optimization of Euglena gracilis Using The Response Surface Methodology (RSM) Approach in Palm Oil Mill Effluent Medium		
11:10 – 11:20	**20. Paper ID: HST25117** **Presenter: Mr. Ameer Muhammad Khan,**	11:10 – 11:20	**26. Paper ID: HST25141**		

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Time	Grand Meroz Room I IHSATEC2025; 18th HASIB	Time	Grand Meroz Room II IHSATEC2025; 18th HASIB	Time	Green Halal Workshop
	Chulalongkorn University, Thailand Title: Comparative Analysis of Gut Microbial Diversity in Early Decomposition Stages of Human Cadavers in Thai Population		**Presenter: Dr. Tia Erfianti,** National Research and Innovation Agency, Indonesia Title: Transcriptomic Profiling of the Indonesian-Isolated Euglena gracilis Strain Reveals Key Regulatory Pathways Enhancing Carbon Capture and Fatty Acid Biosynthesis		
11:20 – 11:30	**21. Paper ID: HST25155** **Presenter: Ms.Renata Adaranyssa Egistha Putri,** Universitas Gadjah Mada, Indonesia Title: Morphology Modification of Diatom Skeletonema tropicum as Microrobot Components through Salinity Variations	11:20 – 11:30	**27. Paper ID: HST25154** **Presenter: Dr. Bambang Dwi Wijatniko,** Universitas Gadjah Mada, Indonesia Title: Development and Application of Plant-Based Binder from Protein Concentrate of Pigeon pea (*Cajanus cajan L. Millsp.*)		
11:30 – 11:40	**22. Paper ID: HST25171** **Presenter: Ridho Nur Alam,** Universitas Gadjah Mada, Indonesia Title: Optimization of Biomass and Lipid Production of Euglena gracilis IDN 26 in POME Using Response Surface Methodology	11:30 – 11:40	**28. Paper ID: HST25159** **Presenter: Mr. Naved Alam,** Aligarh Muslim University, Aligarh, India Title: Integrating AI and Adaptive Learning in Islamic Education: Ethical Perspectives for the Digital Era 5.0		
11:40 – 11:50	**23. Paper ID: HST25118** **Presenter: Mr. Samsuri Djamal,** Gadjah Mada University, Indonesia Title: Genetic Diversity of Eel Fish Using Random Amplified Polymorphhism Dna (Rapd) Method in North Maluku Waters, Indonesia	11:40 – 11:50	**29. Paper ID: HST25163** **Presenter: Mr. Muhammad Audrian,** LPPOM MUI, Indonesia Title: Application of Descriptive and Discriminative Sensory Analysis for Halal Verification: A Case Study of Commercial Grape Juice and Non-Alcoholic Wine Analog in the Indonesian Market		
11:50 – 12:00	Group Photo session	11:50 – 12:00	Group Photo session		

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THAILAND HALAL ASSEMBLY 2025

Day 2: December 19, 2025 (FRIDAY)			
Exhibition Zone IHSATEC2025; 18th HASIB *Poster session*			
09:00 – 12:00	*IHSATEC2025; 18th HASIB Poster session*		
09:00 – 09:10	**Welcoming Academic Presentation**		
09:10 – 10:30	**Cluster 1:** **Science, Technology, and Innovation (SP-1)** *(8 min presentation + 2 min Q&A)* **Chairperson 1: Asst. Prof. Dr. Muhammad Sajid Arshad,** School of Agriculture, Food and Ecosystem Sciences, The University of Melbourne, Australia **Chairperson 2: Prof. Dr. Nancy Dewi Yuliana,** Food Science and Technology, Bogor Agricultural University, Indonesia Academic presenter:	09:10 – 10:30	**Cluster 2:** **AI, Blockchain and Business (BP-1)** *(8 min presentation + 2 min Q&A)* **Chairperson 1: Assoc. Prof. Dr. Hendrati Dwi Mulyaningsih,** Universitas Islam Bandung and Research Synergy Foundation, Indonesia **Chairperson 2: Prof. Ir. Dr. Muhamad Nadratuzzaman Hosen,** Syarif Hidayatullah State Islamic University, Indonesia Academic presenter:
09:10 – 09:20	**1. Paper ID: HST25137** **Presenter: Dr. Mohd Hazim Mohd Yusop,** Universiti Malaysia Sabah Title: Porcine DNA Detection in Soy Sauce Using Real-Time PCR porcine DNA Detection in Soy Sauce Using Real-Time PCR	09:10 – 09:20	**8. Paper ID: HST25111** **Presenter: Mr. Tri Wahyu Nugroho,** Bandung Islamic University, Indonesia Title: Halal Certification as a Trust Signal in Muslim Consumers' Purchase Intentions for Boocha Booms KombuchaD
09:20 – 09:30	**2. Paper ID: HST25146** **Presenter: Mr. Muhammad Eriansyah Al Hakim,** Food Innovation Nutrition and Health / Asian Institute of Technology, Thailand Title: Characterization of Nutritional and Bioactive Properties of Coffea canephora Pulp and Its Aqueous Extract Using Conventional and Ultrasonic Assisted Extraction	09:20 – 09:30	**9. Paper ID: HST25108** **Presenter: Dr. Raja Madihah Raja Alias,** Universiti Sultan Zainal Abidin, Terengganu, Malaysia Title: Trade-Based Money Laundering: Assessing Risks and Compliance for the Halal Agricultural and Food Supply Chain
09:30 – 09:40	**3. Paper ID: HST25164** **Presenter: Ms. Salida Ali,** The University of Hong Kong, Hong Kong Title: CTCF regulation of CEMIP: Novel and Translational target for drug resistant prostate cancer	09:30 – 09:40	**10. Paper ID: HST25160** **Presenter: Mr. Sheraz Ali,** University of the West Indies, Trinidad and Tobago Title: Determinants of halal food purchase intention among Muslims in Barbados
09:40 – 09:50	**4. Paper ID: HST25124** **Presenter: Ms. Fatin Fitriah,** Halal Products Research Institute, Universiti Putra Malaysia	09:40 – 09:50	**11. Paper ID: HST25104** **Presenter: Dr. Mohamed Syazwan Ab Talib,** Universiti Brunei Darussalam, Brunei Darussalam Title: Bibliometric Insights into Halal Tourism and Supply Chain Management Nexus

	Exhibition Zone IHSATEC2025; 18th HASIB *Poster session*		
09:50 – 10:00	Title: Rapid Pork Adulteration Detection Using Colour and Texture Analysis Coupled with Machine Learning **5. Paper ID:** **Presenter:** Title:	09:50 – 10:00	**12. Paper ID: HST25144** **Presenter: Mr. Prasetyo Notonegoro**, Bandung Islamic University, Indonesia Title: Islamic Value-Based Healthcare and Financial Risk Efficiency in Chronic Disease Management: Integrating Maqasid al-Shariah and Value-Based Care Perspectives
10:00 – 10:10	**6. Paper ID:** **Presenter:** Title:		
10:10 – 10:20	**7. Paper ID:** **Presenter:** Title:	10:00 – 10:10	**13. Paper ID:** Presenter: Title:
10:20 – 10:30	Group Photo session		
		10:10 – 10:20	**14. Paper ID:** **Presenter:** Title:
		10:20 – 10:30	Group Photo session
10:30 – 10:45	Tea/Coffee Break/ Poster Viewing		
10:30 – 12:00	**Cluster 3:** **Science, Technology, and Innovation (SP-2)** *(8 min presentation + 2 min Q&A)* **Chairperson 1: Prof. Dr. Ir. Damat, MP, IPM** Lecturer of Food Technology Department, Faculty of Agriculture and Animal Science, University of Muhammadiyah Malang, East Java, Indonesia **Chairperson 2: Mr. Çağrı Cankurtaran,** Secretary of the SMIIC Committee on Standards for Conformity Assessment Academic presenter:	10:30 – 12:00	**Cluster 4:** **AI, Blockchain and Business (BP-2)** *(8 min presentation + 2 min Q&A)* **Chairperson 1: Prof. Ir. Dr. Shahrir Abdullah,** Department of Mechanical and Materials Engineering, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia **Chairperson 2: Asst. Prof. Dr. Pakpum Somboon,** Lecturer, Bio-Electronic Research Laboratory (BERL), Department of Electrical Engineering, Chulalongkorn University, Thailand Academic presenter:
10:30 – 10:40	**15. Paper ID: HST25145** **Presenter: Ms. Salsabilla Nadifah**, Universitas Ary Ginanjar, Indonesia	10:30 – 10:40	**23. Paper ID: HST25110** **Presenter: Dr. Ahmad Maulidizen**, Aligarh Muslim University, India

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Poster session

Time		Time	
10:40 – 10:50	Title: Challenges and Motivation of Daughters in Continuing Family Business Roles **16. Paper ID: HST25161** **Presenter: Dr. Abdul Sattar Shah**, Khyber Pakhtunkhwa Food Safety & Halal Food Authority (KPFS&HFA), Pakistan Title: Advancing Halal Food Safety through Science-Based Governance and ISO 17025 Systems: The KPFS&HFA Experience Subtitle: A Model of Integrated Regulation, Laboratory Excellence, and Sustainable Food System Transformation in Pakistan	10:40 – 10:50	Title: Faith-Driven Consumer Choices: Exploring the Role of MUI Fatwa in Moderating the Effect of Boycott Motivation on Gen Z's Purchasing Behavior **24. Paper ID: HST25135** **Presenter: Mr. Muhammad Rafi Thoriq,** Universitas Muhammadiyah Jakarta Title: Reframing Corporate Sustainability through Maqashid Syariah: Evidence from Indonesia's Green Industry
10:50 – 11:00	**19. Paper ID:** **Presenter:** **Title:**	10:50 – 11:00	**25. Paper ID: HST25162** **Presenter: Dr. Pg Dr Siti Rozaidah Pg Hj Idris,** Universiti Brunei Darussalam, Brunei Title: Halal Integrity in Heavy Industry: Legal and Leadership Perspectives from Brunei's Hengyi Petrochemical Complex
11:00 – 11:10	**18. Paper ID:** **Presenter:** **Title:**	11:00 – 11:10	**26. Paper ID: HST25128** **Presenter: Ms. Amalia Mohd Hashim,** Universiti Putra Malaysia, Malaysia Title: Machine Learning-Based Detection of Lard Adulteration from IRMS and TAG Chromatographic Data
11:10 – 11:20	**19. Paper ID:** **Presenter:** **Title:**	11:10 – 11:20	**27. Paper ID: 814081** **Presenter: Mr. Yazid Yaakob** Title: Automated Imaging Analysis for Animal Skin Identification in Halal Leather Authentication
11:20 – 11:30	**20. Paper ID:** **Presenter:** **Title:**	11:20 – 11:30	**28. Paper ID:** **Presenter:** **Title:**
11:30 – 11:40	**21. Paper ID:** **Presenter:** **Title:**	11:30 – 11:40	**29. Paper ID:** **Presenter:** **Title:**
11:40 – 11:50	**22. Paper ID:** **Presenter:** **Title:**	11:40 – 11:50	**30. Paper ID:** **Presenter:** **Title:**
11:50 – 12:00	Group Photo session	11:50 – 12:00	Group Photo session

Day 2: December 19, 2025 (FRIDAY)
Virtual **IHSATEC2025; 18th HASIB** *Virtual Oral Presentation session*

09:00 – 12:00	**Science, Technology, and Innovation** *(10 min presentation + 5 min Q&A)*
09:00 – 09:15	**Welcoming Academic Presentation** **Chairperson Introduction** **Chairperson 1:**
09:15 – 09:30	Academic presenter: **1. Paper ID: HST25115** **Presenter: Dr. Jalaloden Marohom,** University of Southern Mindanao, Philippines Title: Positioning Strategies and Consumer Behavior toward Processed Halal Chevon Products: A Structural Equation Modeling Approach
09:30 – 09:45	**2. Paper ID: HST25130** **Presenter: Prof. Anthony Mark Silong,** STI College - Gen. Santos, Inc., Philippines Title: HalalGuide: Halal Certification Portal with Establishment Finder
09:45 – 10:00	**3. Paper ID: HST25103** **Presenter: Mr. Abrar Hussain,** International Center for Chemical and Biological Sciences Title: Islamic Guidelines for Probiotic Production and Application in the Food Sector
10:00 – 10:15	**4. Paper ID: HST25105** **Presenter: Mr. Anwar Rovik,** Universitas Gadjah Mada, Indonesia Title: Harnessing Fagonia cretica from Pakistani Ethnomedicine: Computational Prediction of a Safe, Natural Chemo-preventive Agent for Luminal Breast Cancer Therapeutics
10:15 – 10:30	**5. Paper ID: HST25151** **Presenter: Mrs. Sisca Wulandari,** State University of Jakarta, Indonesia Title: Implementing Halal Education Strategies via the Formation of School-Based Halal Detective Teams and AI-Enhanced Campaign Tools Using Canva: A Case Study among Primary School Pupils
10:30 – 10:45	**6. Paper ID: HST25121**

	Virtual **IHSATEC2025; 18th HASIB** *Virtual Oral Presentation session*
	Presenter: Mr. Muhammad Abubakar, Contech Group, Pakistan Title: Halal Industry Sustainability Index: ESG-Aligned Framework for Integrated Resilience
10:45 – 11:00	**7. Paper ID: HST25140** **Presenter: Mr. Anoshan Yoganathan**, South Eastern University of Sri Lanka, Sri Lanka Title: Blockchain-Based Early Warning System for Food Contamination Detection: Enhancing Food Safety and Halal Integrity through IoT and AI
11:00 – 11:15	**8. Paper ID: HST25125** **Presenter: Mr. Mohd Nurhadi Hamsar**, Universiti Putra Malaysia, Malaysia Title: A Review of Potential of Porcine-Specific Peptide Markers as Tools for Halal Meat Authentication
11:15 – 11:30	**9. Paper ID: HST25167** **Presenter: Mrs. Sarika Zuhri**, Universitas Syiah Kuala, Indonesia Title: Clustering of Halal Certification Readiness Levels Using The K-Means Clustering Algorithm in MSMEs Banda Aceh
11:30 – 11:45	Group Photo & Sharing Session Certificate Distribution Post Conference Information
11:45 – 01:30	**Lunch and Friday Prayer Break**
01:30 – 01:35	**Session Chair Introduction** **Chairperson:**
01:35 – 01:50	**10. Paper ID: HST25150** **Presenter: Ms. Indriyanti Widyaratna**, University of Darussalam Gontor, Indonesia Title: FTIR Spectroscopy Analysis of Organosulfur Compounds from Garlic Extra
01:50 – 02:05	**11. Paper ID: 245507** **Presenter: Dr. Nor Surilawana Sulaiman**, Halalan Thayyiban Research Centre, Universiti Islam Sultan Sharif Ali, Brunei

	Virtual IHSATEC2025; 18th HASIB *Virtual Oral Presentation session*
02:05 – 02:20	Title: Exploring the Nexus between Digital Marketing and Halal Consumer Behavior: A TikTok-Based Study **12. Paper ID: HST25142** **Presenter:** Mr. Hjmuhammadruzaini Binhjmohddaud, Archaeology Officer at Sultan Haji Hassanal Bolkiah Islamic Khazanah Hall Title: Sultan Haji Hassanal Bolkiah Islamic Khazanah Hall: Showcasing the Power of Islamic Faith and Scientific Insight in Brunei Darussalam
02:20 – 02:35	**Paper ID: HST25131** **Presenter: Assoc Prof. Muhammad Sohaib,** University of Veterinary & Animal Sciences (UVAS), Lahore, Pakistan Title: Metabolite profiling using Spectroscopy for the identification of omics markers correlated with different meats quality
02:35 – 02:50	Group Photo & Sharing Session Certificate Distribution Post Conference Information

THAILAND HALAL ASSEMBLY 2025

INTERNATIONAL CONFERENCE
งานประชุมวิชาการด้านวิทยาศาสตร์ และนวัตกรรมฮาลาลนานาชาติ
18–19 DECEMBER 2025 at Al Meroz Hotel Bangkok

Day 2: December 19, 2025 (FRIDAY)	
Time	**Grand Meroz Room** **IHSATEC2025; 18th HASIB**
12:00 – 14:00	Lunch and Jumaat prayer at the Islamic Center of Thailand
14:00 – 15:00	**Session 7:** **Shariah and Science for Green Halal Integrity**
14:00 – 14:05	**Chairperson: Dr. Simab Kanwal,** Researcher at the Institute of Biotechnology and Genetic Engineering, Chulalongkorn University, Thailand
14:05 – 14:20	**Speaker 1: H.E. Mr. İhsan ÖVÜT,** Secretary General, The Standards and Metrology Institute for the Islamic Countries (SMIIC) **Title:**
14:20 – 14:35	**Speaker 2: Eng. Moteb Al-Mezani,** Director General, GCC Accreditation Center (GAC), Saudi Arabia **Title:**
14:35 – 14:50	**Speaker 3: Prof. Dr. Irwandi Jaswir,** Dean for Academic, Research, and Publication at INHART, the International Islamic University Malaysia (IIUM), Malaysia **Title:** "*Islamic Food Laws: Philosophical Basis and Practical Implications in Halal Authentication*"
14:50 – 15:05	**Speaker 4: Assist. Prof. Dr. Zahra Al-Kharousi,** Lecturer, Food Microbiology and Biotechnology, College of Agricultural and Marine Sciences, Sultan Qaboos University, Oman **Title:** "*Innovating Halal Fermentation: Sustainable Starter Culture Development for Date Vinegar Production*"
15:05 – 15:20	**Panel Discussion, Question and Answer session**
15:20 – 15:30	**Group Photo session**
15:15 –15:30	Tea/Coffee Break
15:30 – 16:30	**Award Ceremony**
16:30 – 17:00	**Closing Ceremony**

--- **End of The Conference**---

Track:
Food Safety

Trade-Based Money Laundering: Assessing Risks and Compliance for the Halal Agricultural and Food Supply Chain | Raja Madihah Raja Alias

Faculty of Law and International Relations, Universiti Sultan Zainal Abidin, Terengganu, Malaysia

Abstract

Background – Agricultural and food supply chains are among the economic sectors and products that are vulnerable to trade-based money laundering (TBML). The Financial Action Task Force (FATF) has highlighted that TBML remains a significant money laundering (ML) risk due to its exploitation of illicit trade transactions that can affect the global agricultural and food supply chain, including the Halal sector.

Purpose – This study aims to examine the risks of ML with a specific focus on the Halal agricultural and food supply chain, due to its factors that often attract launderers, given the nature of market saturation and perishable items. Consequently, this study analyses anti-money laundering (AML) compliance requirements in ensuring the integrity of the Halal agricultural and food supply chain from being a conduit for illicit funds.

Design/methodology/approach – This study employs a qualitative research approach by adopting a doctrinal legal method to analyse international standards and Malaysia's domestic laws and regulations related to AML compliance, with a special focus on the Halal agricultural and food supply chain. This method enables an in-depth analysis to identify loopholes and challenges in current AML compliance and Malaysian statutory provisions related to TBML risks in the Halal sector.

Findings – This study finds that TBML is increasingly exploited for ML through the use of low-value and high-volume perishable goods. The misuse or falsification of Halal certifications and related documents further facilitates the embedding of illicit funds to disguise as legitimate import and export activities.

Research limitations – The scope of this study is limited to the examination of the risks involved for ML and the preventive measures requirements to deter TBML activities in the Halal agricultural and food supply chain based on international standards and Malaysian law. Further research should focus on best-practice countries in AML compliance within the Halal economy against TBML risks.

Originality/value – This study contributes to the existing literature on TBML, which emphasises AML compliance requirements for Halal agriculture and the food supply chain. This study will benefit policymakers and the Halal industry in ensuring that Malaysia safeguards the integrity of the financial system and protects food security in the Halal sector from exploitation by criminals for illicit crimes.

Keywords: Trade-Based Money Laundering; Preventive Measures; Illicit Financial Flows; Food Security

Metabolite profiling using Spectroscopy for the identification of omics markers correlated with different meats quality | Muhammad Sohaib[1], Sanaullah Iqbal[1]

[1]University of Veterinary and Animal Sciences (UVAS), Lahore, Pakistan

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Abstract

Background – The consumption of meat around the globe is increasing, which also results in increasing opportunities and motivations for fraud in meat supply chain. Thus, it is vital that quality along with authenticity of meat and meat-based products need to be determined to ensure safe, healthy and authentic meats supply for human consumption

Purpose – Accordingly, present study conducted to explore possibilities of using metabolomics to differentiate meats (chicken, beef, pork and lamb) for meat authenticity along with examining potential of untargeted metabolomic fingerprinting to distinguish meats from major meat animal species.

Design/methodology/approach – For the study, meats of selected animals including chicken, beef, pork and lamb were subjected to five different extraction methods to optimize suitable method for extraction of polar and non-polar metabolites. Afterwards, meat samples were analyzed in real time using non-targeted metabolomics through (LCMS 9030-Q-TOF) to differentiate meats based on the basis of metabolites

Findings – The results indicated generation of useful information by non-targeted metabolomics and pre-processing of data completed by MS dial and then data processing using SIMCA 18 software. With the use of multivariate data analysis through principal component analysis (PCA) and orthogonal partial least square-discriminant analysis (OPLS-DA), differentiation between meats from different animals was achieved.

Research limitations – The study involves use of non-targeted metabolomics which generate a huge set of data as well as validation of the different markers which is also a laborious task for the differentiation of meat species based on metabolomics

Originality/value – The study also showed combination of non-targeted LC-MS QTOF metabolomics and chemometrics could differentiate meats from different animal species that is helpful for authentication of meats for consumers concern as well as meat supply chain integrity

Keywords: Food safety, Meat quality, Metabolomics, Spectroscopy, Identification of meat species

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Determinants of halal food purchase intention among Muslims in Barbados

│ **Sheraz Ali**

University of the West Indies

Abstract

Background – Barbados is a non-Muslim majority country where the halal food industry remains in its early stages of development. Halal food consumption represents a key concern for Muslim consumers and provides a valuable area for behavioral research.

Purpose – This study aims to address the existing gap in the literature concerning the purchasing behavior of the Muslim minority in Barbados.

Design/methodology/approach – Guided by Ajzen's Theory of Planned Behavior (TPB), this research aimed to examine the attitudes, subjective norms, and perceived behavioral control influencing the purchase intentions of halal-labeled food products. A quantitative survey design was employed, involving 200 questionnaires distributed to Muslim consumers residing in Barbados.

Findings – Multiple regression analysis results indicated that all TPB variables have a positive and significant influence on the intention to purchase halal-labelled products.

Research limitations – The research is limited to the original antecedents of the Theory of Planned Behavior

Originality/value – This study aims to address the existing gap in the literature concerning the purchasing behavior of the Muslim minority in Barbados. The findings offered valuable guidance for policymakers, marketers, and halal food producers in formulating strategies to enhance consumer confidence and engagement with halal-certified products

Keywords: Theory of Planned Behavior, Non-Muslim majority, purchase intention

Application of Descriptive and Discriminative Sensory Analysis for Halal Verification: A Case Study of Commercial Grape Juice and Non-Alcoholic Wine Analog in the Indonesian Market

| Muhammad Audrian[1], Heryani[1]

[1]LPPOM MUI

Abstract

Background – The proliferation of non-alcoholic wine analogs in the Indonesian market presents a significant challenge to Halal assurance. While these products are alcohol-free, their sensory resemblance to khamr (alcoholic wine) creates shubhah (doubt) for Muslim consumers. Standard methods for Halal verification using instrumental analysis, which only confirms the absence of alcohol, it is insufficient to address the critical issue of sensory imitation (tashabbuh).

Purpose – This study aimed to apply the use of descriptive and discriminative sensory analysis as a scientific method for Halal verification, specifically to provide an empirical method for addressing the risks of tashabbuh.

Design/methodology/approach – The study employed a case study methodology, examining commercially products available in Indonesia including certified-halal grape juices, a non-alcoholic wine analog, and a reference alcoholic wine (khamr). A consumer sensory panel was utilized to conduct two forms of analysis: Quantitative Descriptive Analysis (QDA) to profile and quantify eight key sensory attributes, and a Discriminative Test to assess the overall perceptible differences between the product categories.

Findings – The results demonstrated that sensory analysis could effectively differentiate the product categories. The Discriminative Test revealed a significant difference between the non-alcoholic analogs and both the halal juices and the reference khamr. The Quantitative Descriptive Analysis showed that attributes like 'fermented aroma,' 'alcoholic sensation,' and 'lingering aftertaste' were significantly more intense in the analogs and khamr compared to the juices. Conversely, 'fresh grape aroma' was the defining characteristic of the halal juices.

Research limitations – The scope of the study was limited to wine-type alcoholic beverages analysis. Therefore, the findings may not be directly applicable to other non-alcoholic analogs categories, such as beer or spirits.

Originality/value – The study concludes that sensory analysis is a robust and reliable tool that complements instrumental methods. It provides crucial empirical data on sensory profile conformity, offering a practical solution to mitigate the risks of tashabbuh. This approach strengthens the integrity of the Halal supply chain and enhances Muslim consumer confidence.

Keywords: Halal Verification, Sensory Analysis, Non-Alcoholic Wine Analogs, Tashabbuh, Quantitative Descriptive Analysis.

Halal Integrity Challenges in Stingless Bee Derived Products: A Review of Processing, Solvents, and Supply Chain Risks

| Paula Mariana Kustiawan[1], Marjan Wahyuni[1], Irfan Muris Setiawan[2]

[1]Universitas Muhammadiyah Kalimantan Timur, [2]Universitas Gadjah Mada

Abstract

Background – Stingless bee derived products such as honey, propolis, and bee bread, along with newly developed nano formulated derivatives, are increasingly used in food, nutraceutical, and cosmetic industries. Their growing popularity in Southeast Asia reflects the rapid expansion of stingless bee cultivation. Although these products originate from naturally permissible sources, their halal integrity may be affected by several factors including processing techniques, the use of solvents, alcohol formation during natural fermentation, adulteration, and vulnerabilities in traditional harvesting and supply chain practices.

Purpose – This review aims to analyze the halal related risks associated with stingless bee products and to identify scientific and regulatory gaps related to processing technologies, solvent applications, authentication methods, and traceability systems.

Design/methodology/approach – A structured narrative review was conducted by searching peer-reviewed studies, reference literature, and halal regulatory documents published between 2010–2025 in databases such as Scopus, Web of Science, and Google Scholar. Relevant publications were identified using keywords related to extraction methods, solvent systems, nanoformulation, authentication tools, fermentation, and supply chain issues. Eligible sources were screened for relevance and their findings were synthesized into a concise narrative.

Findings – The review shows that several stages of processing may compromise halal integrity. Ethanol based extraction of propolis, as well as certain nanoencapsulation carriers and surfactants, may introduce non halal components. Natural fermentation in stingless bee honey can lead to alcohol formation, making clear handling guidelines and acceptable halal thresholds necessary. Adulteration remains a major concern, including dilution with sugar syrups, addition of synthetic resins, and mislabeling. Supply chain issues such as traditional harvesting techniques, non-hygienic containers, poor storage conditions, and insufficient documentation also present risks. Although advanced analytical techniques such as FTIR, HPLC, metabolomics, and DNA based assays can support authenticity testing, their application in halal verification remains limited. Significant gaps persist regarding halal specific processing guidelines, halal compliant solvent alternatives, and permissible alcohol limits.

Research limitations – The review is limited by the lack of consistent halal focused research on stingless bee products.

Originality/value – This review provides one of the earliest comprehensive assessments of halal integrity challenges specific to stingless bee products and offers guidance for future halal standards and industry practices.

Keywords: Stingless bee products, halal integrity, processing and solvent risks, adulteration detection, supply chain traceability

Preliminary Survey and Profiling of Food Additives in Ultra-Processed Foods (UPFs) from Convenience Stores in Bangkok

| Acharee Suksuwan[1], Hasam Chebako[1], Kasinee Katelakha[1], Nureesun Mahamud[1], Najwa Yanya Santiworakun[1]

[1]The Halal Science Center, Chulalongkorn University

Abstract

Background – Ultra-Processed Foods (UPFs) undergo extensive industrial processing and incorporate various food additives. They are typically characterized by high total energy but low nutritional value. The continuous consumption of UPFs is associated with increased risks of chronic diseases and metabolic dysfunction.

Purpose – This study aimed to quantitatively survey and analyze the profile of food additives (INS numbers) and nutritional information displayed on commercial UPF products available in local convenience stores. A key objective was to compile a database of food additives frequently found in UPFs to support future research and analysis.

Design/methodology/approach – A cross-sectional survey methodology was employed to collect data on 102 UPF products, including snacks (56 types) and quality-defined foods (46 types). Samples were collected from major convenience store chains for three months in 2025. Recorded data included product ingredients, INS numbers, functional classes of additives, and key nutrition facts.

Findings – The survey of 102 UPFs identified the presence of 73 distinct types of food additives. In the snack category (56 types), the most frequently detected additives were INS 621 and INS 330. Nutritional analysis generally indicated that these products contained high levels of energy, sugar, and sodium. Specifically, hidden sodium was detected in 53 types of snacks and 30 types of quality-defined foods. Additionally, artificial sweeteners were present in 7 snack items and 2 bakery items. The average total energy content was found to be 159.1 ± 86.1 kcal per serving for snacks (n=56) and 209.0 ± 308.8 kcal per serving for quality-defined foods (n=46).

Research limitations – Limitations included constraints on amount of samples, time and some products displayed incomplete nutritional information or lacked explicit numerical data for food additive quantities, necessitating that risk assessment rely on general standard information.

Originality/value – This study systematically compiled a preliminary database regarding the food additive profiles and nutritional data of UPFs available in Bangkok convenience stores. It offers evidence regarding the prevalence of various food additives and suboptimal nutritional components in widely consumed commercial products. This data serves as a crucial foundation for future in-depth research, supports efforts to promote consumer education on reading nutritional labels, and provides grounds for suggesting the development of nutritional warning labels or improved product formulations.

Keywords: Ultra-Processed Foods (UPFs), Food Additives, INS Numbers, Thai Markets

Advancing Halal Food Safety through Science-Based Governance and ISO 17025 Systems: The KPFS&HFA Experience Subtitle: A Model of Integrated Regulation, Laboratory Excellence, and Sustainable Food System Transformation in Pakistan

│ Abdul Sattar Shah[1], Muhammad Wasif Saeed[1]

[1]Khyber Pakhtunkhwa Food Safety & Halal Food Authority (KPFS&HFA), Pakistan

Abstract

Background – Halal integrity and food safety are mutually reinforcing pillars of consumer protection and ethical food trade. In Pakistan, challenges such as fragmented regulatory frameworks, limited laboratory accreditation, and weak traceability mechanisms have historically undermined public trust. The Khyber Pakhtunkhwa Food Safety & Halal Food Authority (KPFS&HFA) has pioneered a science-based model that integrates halal assurance with modern laboratory systems under ISO/IEC 17025:2017, advancing both regulatory effectiveness and market competitiveness.

Purpose – This study aims to document and analyze the KPFS&HFA's institutional innovations that strengthen halal food safety governance through accredited testing, risk-based inspections, and digital traceability mechanisms, fostering alignment with global food safety and halal assurance standards.

Design/methodology/approach – A qualitative case study approach was employed, drawing on institutional data, laboratory performance reports, and policy frameworks from 2018–2025. The analysis focuses on the establishment of the Provincial Food Testing Laboratory & Centre for Research (PFTLCR) and the deployment of 12 mobile food testing laboratories, examining their role in ISO 17025 compliance, capacity enhancement, and enforcement outcomes.

Findings – The KPFS&HFA model demonstrates a significant improvement in analytical reliability, transparency, and stakeholder trust. ISO 17025 implementation enhanced international recognition of testing data, while mobile labs strengthened surveillance and rapid response. Integration of halal verification within scientific systems led to improved conformity, reduced food adulteration, and more consistent regulatory enforcement, contributing to sustainable food systems and consumer confidence.

Research limitations – The study focuses on a single provincial framework without extensive longitudinal consumer perception or economic analysis. Broader cross-provincial and regional comparisons are recommended to evaluate national scalability and socio-economic impacts.

Originality/value – This is the first provincial experience in Pakistan to institutionalize halal food safety governance through an ISO 17025-compliant system. The KPFS&HFA framework serves as a replicable model for developing economies, illustrating how science-driven halal governance can underpin ethical trade, food system resilience, and public health protection within the broader vision of sustainable development.

Keywords: Keywords: Halal Food Safety; ISO/IEC 17025; KPFS&HFA; Laboratory Accreditation; Risk-Based Inspection; Sustainable Food Systems; Regulatory Governance; Pakistan

Track:
Bioactive Compounds

An Integrated Computational Approach to Identify Xanthine Dehydrogenase (XDH) Inhibitors from Ardisia elliptica: Network Pharmacology and Molecular Simulation in The Context of Halal Herbal Therapy

| Maharani Retna Duhita[1], Ihlazul Nurul Fadila[1]

[1]Biology Study Program, Faculty of Science and Technology, UIN Maulana Malik Ibrahim Malang

Abstract

Background – Hyperuricemia is a metabolic disorder characterized by elevated serum uric acid levels due to impaired purine metabolism. Although allopurinol is widely prescribed as a xanthine oxidase (XO) inhibitor, its adverse effects highlight the need for safer, plant-based alternatives.

Purpose – In response to the increasing demand for halal-certified natural medicines, this study explored the potential of bioactive compounds from Ardisia elliptica as natural inhibitors of xanthine dehydrogenase (XDH) using an integrated computational approach

Design/methodology/approach – Bioactive compounds were curated from PubChem and KNApSAcK, while their biological activities and potential protein targets were predicted through PASS Online, SuperPred, and SwissTargetPrediction. Network pharmacology analysis, including protein–protein interactions (PPIs), Gene Ontology (GO), and KEGG enrichment, was performed using STRING and visualized with Cytoscape. Molecular docking was conducted with PyRx, and molecular dynamics simulations were analyzed using CABS-flex 2.0 and iMODS.

Findings – Several compounds demonstrated strong binding affinity to XDH (Pa > 0.7), with myricetin-3-O-rutinoside showing the highest affinity (–11.4 kcal/mol). Molecular dynamics confirmed stable interactions at the catalytic residues, and PPIs identified XDH and albumin (ALB) as central targets.

Research limitations – The findings are based entirely on in silico analyses (network pharmacology, molecular docking, and molecular dynamics). No in vitro or in vivo experimental validation was performed to confirm biological activity. In addition, the selection of bioactive compounds relied on secondary databases (PubChem, KNApSAcK, etc.).

Originality/value – These findings indicate that myricetin-3-O-rutinoside from Ardisia elliptica is a promising halal-derived candidate for the development of safe, plant-based therapy for hyperuricemia. This work emphasizes the role of halal natural products in advancing alternative therapeutics and contributes to the growing body of evidence supporting halal-based pharmaceutical innovation.

Keywords: Ardisia elliptica, hyperuricemia, in silico studies, xanthine dehydrogenase (XDH), halal herbal therapy.

Characterization of Nutritional and Bioactive Properties of Coffea canephora Pulp and Its Aqueous Extract Using Conventional and Ultrasonic Assisted Extraction

| Muhammad Eriansyah Al Hakim[1], Sandi Darniadi[1], Anil Kumar Anal[1]

[1]Food Innovation, Nutrition and Health, Asian Institute of Technology

Abstract

Background – Coffee pulp has been an agro-industrial waste that produces massively across coffee-producing countries, such as indonesia. Coffee pulp shows potential as a sustrainable functional food ingridient with health-promting properties. However, scientific data on its nutritional and biaoctive composition are remain limited, especially for region-specific coffea canephora materials.

Purpose – This study aims to evaluate the nutritional composition and functional properties of dried coffea canephora pulp and to characterize the bioactive properties through different two extraction methods and assess its effects of the ultrasound activity using water as solvent for halal and greener approaches.

Design/methodology/approach – Dried coffee pulp was collected from Pagar Alam, South Sumatra, and analyzed using standard AOAC procedures for moisture, ash, crude protein, crude fat, and total soluble sugars. Aqueous extracts were prepared using conventional extraction at 70°C and UAE at different amplitude and cycle settings. Total phenolic content, total flavonoid content, antioxidant activity (IC_{50}), and total soluble sugars were measured using spectrophotometric methods to evaluates the extraction performance and functional properties.

Findings – UAE has shown higher phenolic and flavonoid contents compared to the conventional method. Antioxidant activity also has different results between the extraction approaches, with UAE showing more stronger radical-scavenging power. Differences between UAE amplitudes and cycles is indicating that ultrasound intensity can influence the stability and solubility of compounds present in coffee pulp. Total soluble sugars also showing variationt across treatments, indicating difference solubilization efficiency during extractions.

Research limitations – This study strictly limited to coffea canephora coffee pulp from Pagar Alam City, South Sumatera, Indonesia and the solvent is focused on aqueous extraction and only basic bioactive analysis assays. Additional analysis such HPLC Phenolic profiling, antidiabetic enzymatic assays, or extraction optimization were not included. The findings are representing specific sample and may vary on coffee pulp variety, maturity, drying process, and processing conditions.

Originality/value – This study provides baseline scientific information on coffea canephora pulp from Pagar Alam City, It demonstrates how UAE can enhance the extraction of the bioactive compounds and supports the potential use of coffee pulp as a value-added ingredient for functional food applications. The findings contribute to efforts in utilizing coffee by-products within sustainable and circular bioeconomy frameworks.

Keywords: Coffee Pulp, Coffea Canephora, Ultrasonic Assisted Extraction, Bioactive Compounds

FTIR Spectroscopy Analysis of Organosulfur Compounds from Garlic Extract (Allium sativum L.) and Cytotoxic Activities Against T47D Cell Line

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Abstract

Background – Garlic (Allium sativum L.) has been used as a traditional medicinal plant. In Islamic prophetic tradition (hadith), garlic is mentioned as a vegetable prohibited for consumption by individuals who are about to perform prayer in the mosque due to its strong aroma. This cultural reference reflects long-standing awareness of garlic's characteristic smell, which is now understood to arise from its organosulfur constituent.

Purpose – Organosulfur, as the main bioactive compound in garlic, has anticancer properties; however, it is chemically unstable, so the extraction method needs to be carefully considered. This research aimed to analyse the organosulfur components extracted using wet and dry extraction methods and to determine their cytotoxic activity against T47D cell lines.

Design/methodology/approach – The methodology of this study involves extracting the compounds in both wet and dry extraction methods using maceration and direct crushing techniques. An FTIR spectrophotometer was used to analyse organosulfur compounds in the garlic extract, with an absorbance range of 650–4000 cm^{-1}. Cytotoxic activity was assessed against the T47D cell lines using the MTT assay, and its IC50 value was measured.

Findings – The results showed that the garlic extract contained the following compounds: S–S (stretched disulfide) groups at 722.18 cm^{-1} in the wet extract as the main organosulfur compound; and C–S extended sulphides (997.81 cm^{-1}) in the dry extract. Both extracts contained C=C alkenes, S–H sulphonamide, aldehyde groups, and evidence of hydrogen bonding. These findings were compared with the William and Fleming FTIR Dictionary (1989) as the main reference for compound identification. The cytotoxic test showed that the wet extraction method exhibited cytotoxic activity against T47D cell lines, with an IC_{50} value of 94.384 µg/ml. This result can be used to initiate further research on cancer therapy using halal material.

Research limitations – The acknowledged limitation of this research is that FTIR spectroscopy identifies functional groups but cannot confirm molecular structures or quantify specific compounds; therefore, techniques such as HPLC, LC–MS/MS, or GC–MS would provide more comprehensive chemical profiling.

Originality/value – The originality of the study lies in its direct comparison of wet versus dry extraction methods and their influence on the presence of organosulfur compounds.

Keywords: cytotoxic, FTIR, garlic, Islamic tradition, organosulfur compound

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Track: Biotechnology

Genetic Diversity of Eel Fish Using Random Amplified Polymorphism Dna (RAPD) Method in North Maluku Waters, Indonesia

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[1]Gadjah Mada University, [2]Khairun University

Abstract

Background – Eels (Anguilla spp.) are economically and ecologically important fish species in Indonesia, supporting both capture fisheries and aquaculture sectors. However, increasing exploitation and habitat degradation have raised concerns about their population sustainability. Understanding the genetic diversity of eel populations is essential not only for conservation but also for supporting sustainable and halal-certified aquaculture systems that ensure product integrity and animal welfare.

Purpose – This study aimed to analyze the genetic diversity and phylogenetic relationships of eels based on phenotypic and genotypic characteristics using the Random Amplified Polymorphic DNA (RAPD) method, with data analyzed through clustering and similarity index approaches to clarify population relationships and support sustainable, halal-certified aquaculture practices.

Design/methodology/approach – This study aimed to assess the genetic diversity of eel populations in North Maluku waters using the Random Amplified Polymorphism DNA (RAPD) method. Samples were collected from multiple locations, and RAPD markers were used to evaluate genetic variation through clustering and similarity index analyses to describe genetic relationships among populations.

Findings – The results revealed high levels of polymorphism among populations, indicating substantial genetic diversity. This high degree of variation is crucial for selective breeding and conservation programs, helping to maintain adaptive potential and resilience in eel populations.

Research limitations – This study was limited by the relatively small sample size and the use of RAPD markers, which may offer lower reproducibility compared to more advanced molecular tools such as microsatellites or single nucleotide polymorphisms (SNPs). Moreover, sampling was restricted to four locations in North Maluku, which may not fully capture the genetic variation of eel populations across Indonesia; therefore, future studies should include broader sampling and more robust genetic markers to enhance resolution and accuracy.

Originality/value – The findings provide valuable insights for conservation initiatives, the development of selective breeding programs, and the implementation of sustainable and halal-certified management strategies for eel resources in Indonesia.

Keywords: Eel fish, genetic diversity, RAPD marker, sustainable aquaculture, halal certification

Track:
Food Science and Technology

Development and Characterization of Halal Caulerpa lentillifera-Fortified Jelly with Enhanced Nutritional and Antioxidant Properties

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Abstract

Background – The demand for clean-label and halal-compliant confectionery is gaining attention as consumers seek healthier and more sustainable food options. Caulerpa lentillifera, a mineral-rich edible green algae, offers potential as a fortifying ingredient to enhance the nutritional and antioxidant properties of jelly products.

Purpose – This study aimed to develop a halal, non-gelatin, and preservative-free jelly product with C. lentillifera and compared its nutritional properties, mineral content, and antioxidant activity with those of commercial and control jelly.

Design/methodology/approach – Principal Component Analysis (PCA) was applied to mineral and antioxidant analyses for the comprehensive nutritional properties analysis.

Findings – The fortified C. lentillifera jelly exhibited higher antioxidant activity (68% and 45% for DPPH and ABTS scavenging activity, respectively), increased levels of magnesium, zinc, and iron, and a lower sodium content. The moisture content of the fortified jelly is 38% lower than that of the commercial jelly, resulting in a denser, nutrient-rich product with potential for a longer shelf life. The PCA explained 97.4% of the total variance and successfully distinguished the jellies based on the nutritional advantages.

Research limitations – Although this study was conducted on a laboratory scale and focused on compositional parameters, further research on sensory evaluation, stability, and scale-up studies is imperative for practical application.

Originality/value – The incorporation of C. lentillifera represents an innovative approach that utilizes marine-based functional ingredients within the food industry. Overall, this research introduces a novel halal, preservative- and colouring-free confectionery with fortified C. lentillifera, demonstrating potential for health-oriented, halal-certified functional foods that align with global wellness initiatives and the evolving demand for clean-label, sustainable products.

Keywords: antioxidant, Caulerpa lentillifera, jelly, halal, Principal Component Analysis

Hybrid Extraction Optimization of Moringa oleifera Leaves Protein

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Abstract

Background – The growing global demand for halal, sustainable, and plant-based alternatives to animal-derived gelatin has escalated the search for novel protein sources suitable for functional and clean-label food applications. Moringa oleifera leaves, containing approximately 30% protein and a balanced nutritional profile, represent a promising candidate for the development of halal protein ingredients.

Purpose – This study aimed to develop and optimize an integrated extraction process to obtain high-purity Moringa oleifera protein concentrate, suitable for use as a potential halal alternative to gelatin in food and nutraceutical applications.

Design/methodology/approach – This study reports the laboratory-scale optimization of a novel hybrid extraction method combining ultrasound-assisted extraction (UAE), alkaline-acid solubilization, and ammonium sulphate precipitation, aimed at producing a moringa leaf protein concentrate with enhanced purity and recovery. Preliminary experiments identified key factors influencing protein recovery, followed by a Box–Behnken experimental design under response surface methodology (RSM) to investigate the effects of sonication time, pH, and ammonium sulphate concentration. The process was optimized at 60 minutes sonication, pH 9.5, and 70% $(NH_4)_2SO_4$, using a 1:10 (w/v) solute-to-solvent ratio.

Findings – Under these conditions, the optimized process achieved a protein recovery of 12.39%, an extraction yield of 5.54%, and a protein content of $61.63 \pm 2.51\%$, demonstrating substantial improvement in both recovery and purity compared with conventional methods. The integrated process enhanced protein solubilization, minimized impurity co-extraction, and improved overall extraction efficiency.

Research limitations – The current study focused primarily on extraction optimization and yield characterization. Further work is needed to evaluate the functional properties (such as foaming capacity, emulsifying capacity and gelling ability) and structural integrity of the extracted proteins to confirm their suitability as gelatin substitutes in specific food systems.

Originality/value – This work introduces a newly optimized ultrasound–salt-assisted extraction technique that bridges the purity–recovery trade-off in moringa protein extraction. The method provides a scalable, halal-compliant, and sustainable pathway for producing plant-based protein concentrates with potential applications in halal confectionery, functional foods and nutraceutical, contributing to the growing clean-label food movement.

Keywords: Moringa oleifera, protein extraction, ultrasonication, protein yield, plant protein.

Optimizing Halal Zone Layouts in Industrial Estates for Warehousing and Distribution: A Spatial Modeling Approach Utilizing QGIS

| Fajar Azhari Julian[1], Ahmad Nur Ihsan Purwanto[1], Muhammad Roihan Zainuddin[1]

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Abstract

Background – The rapid growth of the halal industry underscores the urgent need for logistics and industrial infrastructures that comply with halal standards. Although Indonesia aspires to become a global halal hub, its industrial estates still lack spatial integration of halal principles. This study addresses that gap by applying Geographic Information System (GIS)—particularly QGIS—to model and optimize halal zone layouts. The approach strengthens Indonesia's Masterplan Ekonomi Syariah by ensuring halal integrity, environmental safety, and spatial efficiency in industrial planning.

Purpose – The research aims to develop a QGIS-based spatial modeling framework for designing and optimizing halal zones in industrial estates. It focuses on identifying strategic locations for halal warehousing and distribution, designing segregation systems to prevent contamination, and offering spatially informed policy recommendations aligned with the national halal industrial roadmap.

Design/methodology/approach – This study employs a mixed-methods design, combining qualitative insights from regulatory documents and stakeholder interviews with quantitative spatial modeling using QGIS and Multi-Criteria Decision Analysis (MCDA). The case study in West Java, a key logistics hub, evaluates land suitability based on accessibility, contamination risk, and environmental criteria to ensure both efficiency and compliance with halal principles.

Findings – The analysis identifies four candidate halal sites (KM42, KM62, KM71B, and KM72A), with KM72A emerging as the most suitable due to its connectivity, low contamination potential, and supportive infrastructure. The developed spatial model provides a visual and data-driven basis for policymakers to integrate halal zoning into regional development plans. It demonstrates that QGIS-based modeling enhances transparency, traceability, and Sharia-compliant logistics governance.

Research limitations – The model does not fully capture socio-political and institutional challenges influencing halal industrial policy. Future studies should integrate Participatory GIS (PGIS) to strengthen stakeholder collaboration and regulatory harmonization.

Originality/value – This study pioneers an interdisciplinary framework that merges Islamic ethical principles with spatial analysis, introducing halal zoning as a model for sustainable industrial governance. It provides both theoretical innovation and practical guidance for embedding halal assurance into Indonesia's spatial and economic development agenda.

Keywords: Halal Logistics, Industrial Estate, Spatial Modeling, QGIS, Halal Zone Planning.

Porcine DNA Detection in Soy Sauce Using Real-Time PCR

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[1]Universiti Malaysia Sabah

Abstract

Background – Soy sauce is a common fermented condiment used especially in East and Southeast Asian cooking. Yet, food adulteration, or the inclusion of porcine ingredients, is still a point of concern for consumers following halal food regulations.

Purpose – This study aims to analyze the quality and quantity of DNA extracted from soy sauce, to determine specificity, sensitivity, and efficiency of PCR assay for porcine DNA detection and to screen porcine DNA in commercial soy sauce in the market.

Design/methodology/approach – Real-time PCR analysis was utilized for the rapidity, sensitivity, and specificity in detection and quantification of porcine DNA in soy sauce products. Specifically designed primers were constructed from the cytochrome b gene (S. scrofa domestica). DNA samples were extracted using Qiagen DNeasy Mericon Food. SYBR Green-based real- time PCR was conducted for DNA detection of 11 samples, two raw meat samples, one soybean sample, and eight soy sauce samples. PCR amplification was performed with an initial pre-denaturation at 95°C for 60 seconds, followed by 35 cycles of denaturation at 95°C for 15 seconds and combined annealing and extension at 60°C for 45 seconds.

Findings – Primer specificity was confirmed since the positive amplification was found to be for porcine DNA alone with a Ct value of 19.78 at 35 cycles. The technique possessed a detection limit of 0.001 ng/µL of porcine DNA. The efficiency of the real-time PCR assay from the regression analysis of the standard curve was 79.8% with a high R^2 value of 0.9986. There was no amplification of the DNA in any of the soy sauce samples, whereas in the spiked sample, amplification occurred at 33.19 Ct value.

Research limitations – Soy sauce sample is a highly process and fermented food which contains mixture of ingredients that can interfere with DNA extraction. Besides, presence of polyphenolic compounds in soy-derived products can inhibit PCR reactions and limit the quality DNA extracted from the sample. Thus, we suggest optimizing DNA extraction methods and using inhibitor removal steps to minimize PCR inhibition in future studies.

Originality/value – This study highlights real-time PCR as a powerful, fast, and sensitive method for detecting porcine DNA in processed food for halal food law enforcement and verification of food label authenticity.

Keywords: Porcine DNA, soy sauce, real time PCR

Development and Application of Plant-Based Binder from Protein Concentrate of Pigeon pea (Cajanus cajan L. Millsp.)

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Abstract

Background – Pigeon pea (Cajanus cajan L. Millsp.) is a legume widely cultivated in Indonesia, however, its utilization as a dietary source remains limited due to the presence of toxic compounds (HCN) and anti-nutritional factors such as phytic acid and trypsin inhibitors. Despite its demerits, protein isolate from pigeon pea can be extracted and utilized as a halal food ingredient, particularly in meat-emulsified products, to enhance their functional and quality attributes.

Purpose – This study aimed to improve the nutritional quality of pigeon pea protein, characterize its functional properties, and assess its potential as a plant-based halal binder for meat products.

Design/methodology/approach – Pigeon pea flour was prepared with various pretreatments and analyzed for HCN and anti-nutritional compounds, followed by defatting and protein extraction. Extraction was performed at alkaline pH, and precipitation was conducted at the isoelectric point determined from protein solubility.

Findings – The resulting high-protein fraction was then evaluated for key functional properties. The most effective pretreatment was soaking in a 5% $NaHCO_3$ solution for 48 hours without boiling, reducing HCN to 3.28 ppm, phytic acid to 9.94 mg/g, and trypsin inhibitor activity to 4.15 mg/g. Protein extraction at pH 12 with precipitation at pH 4 produced a protein concentrate containing 64.47% protein (db), with a concentrate yield of 5.91%, protein yield of 58.26%, and recovery of 46.19%. Functional properties included a water-holding capacity of 2.50 ml water/g solid, oil-holding capacity of 3.06 ml oil/g solid, emulsion capacity of 39.33%, emulsion stability of 89.02%, foam capacity of 40.16%, and foam stability of 83.11% after 4 hours.

Research limitations – The protein concentrate was not integrated directly in meat product formulations, even though its potential as a plant-based halal binder was suggested. Without application testing, its actual performance in texture enhancement, binding strength, and thermal stability remains unknown. Further research is required to validate its functionality in real food systems, including formulation trials using cowpea protein concentrate as a binder in meat products and comparing its performance with commercial soy-based binders.

Originality/value – These functional characteristics indicate a strong potential for pigeon pea protein concentrate to serve as a plant-based halal binder in meat products, supporting clean-label and sustainable food innovation.

Keywords: Pigeon pea, protein concentrate, functional properties, halal binder, anti-nutritional factors

A Study on the Physical Properties of Banana Flour as a Functional Ingredient for Food Applications

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Abstract

Background – Bananas (Musa spp.) are fast-growing plants that can be cultivated year-round throughout all provinces of Thailand. Banana flour is derived from natural raw materials and is considered to have a low glycemic value. Consumption of bananas or banana flour has been associated with potential benefits in reducing the risk of diabetes, cancer, and cardiovascular diseases. In addition, it possesses a characteristic aroma and exhibits favorable physical properties. Investigating the physical properties of banana flour may highlight its potential as an alternative ingredient in various food applications. Moreover, such knowledge can contribute to value addition and enhanced its utilization.

Purpose – To determine the bioactive properties and functional characteristics of unripe banana flour (UBF) by evaluating its total phenolic content, antioxidant activity, and water and oil-holding properties, in order to assess its potential use as a functional ingredient.

Design/methodology/approach – Unripe bananas from Nakhonnayok, Thailand, were dried at 60 °C for 48 hours, ground, and sieved (80–100 mesh) to obtain UBF. The flour was extracted with 80% ethanol at a 1:10 (w/w) ratio at 70 °C, filtered through a Whatman No. 1 membrane, and the solvent was removed under reduced pressure. The phenolic content of the UBF crude extract was determined using the Folin–Ciocalteu reagent, while antioxidant activity was assessed using the DPPH assay. The water-holding capacity (WHC) and oil-holding capacity (OHC) of UBF were also determined.

Findings – The total phenolic content obtained from UBF extraction with 80% ethanol revealed that it was contained 228 mg GAE/100 g of total phenolic compounds. The antioxidant activity exhibited an IC_{50} value of 32.02 mg/mL. The water-holding capacity and oil-holding capacity of UBF were determined to be 134 g water/100 g UBF and 78.5 g oil/100 g UBF, respectively. This property revelas that UBF could enhance moisture retention, texture, and viscosity in food products.

Research limitations – This study is limited by the use of a single in vitro antioxidant assay (DPPH), and further characterization of individual phenolic compounds would provide a more comprehensive understanding of the bioactive profile of UBF.

Originality/value – The findings demonstrate that UBF possesses substantial phenolic content, notable antioxidant activity, and favorable hydration and lipid-binding properties, highlighting its potential as a multifunctional ingredient for food formulation.

Keywords: unripe banana flour, Functional ingredient, antioxidant, Functional food, alternative flour

Plant-Based Probiotic Beverage from Date Juice: A Preliminary Study on Fermentation-Related and Sensory Characteristics

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Abstract

Background: Growing interest in plant-based probiotic products has stimulated the search for non-dairy substrates capable of supporting probiotic growth while providing additional functional benefits. Date palm fruit (*Phoenix dactylifera* L.) is naturally rich in fermentable carbohydrates, phenolic compounds, and antioxidants, making it a promising medium for producing functional probiotic beverages.

Purpose: This preliminary study aimed to develop a plant-based probiotic beverage from date juice and to examine the effects of juice concentration and probiotic inoculum levels on fermentation-related characteristics and sensory outcomes.

Design/Methodology/Approach: Date juice prepared at 20, 25, and 30% (w/w) was fermented with *Lactobacillus plantarum* at two inoculum levels (10 and 50 mg/100 mL) for 24 h at 37°C. Physicochemical properties, viable cell counts, sensory acceptability, and Just-About-Right (JAR) profiles of the fermented date juice (FDJ) were assessed to identify promising formulations for subsequent optimization.

Findings: After 24 h of fermentation, FDJ showed a decrease in pH, with the greatest reduction at the lowest juice concentration, while total soluble solids remained unchanged. Probiotic viability increased from 7 to 8 log CFU/mL at 10 mg/100 mL inoculum but remained at approximately 8 log CFU/mL at higher inoculum levels. Preliminary sensory evaluation revealed no significant differences in sensory attributes or overall acceptability among FDJ samples; however, JAR analysis indicated that samples prepared with 50 mg/100 mL inoculum at 25 and 30% (w/w) juice concentration had the highest proportion of "just-right" ratings for sweetness and sourness, with acceptable Net Effect values. Overall, these findings suggest that date juice is a suitable substrate for probiotic beverage development and that the higher inoculum level tested may be a preferable condition for further development.

Research Limitations: Sensory evaluation was conducted with a small panel (n = 11) as a preliminary screening for optimization.

Originality/Value: This study provides initial evidence that date juice can serve as a viable plant-based substrate for probiotic fermentation without added sugars or additives. A combination of natural date-derived nutrients and probiotic fermentation presents a promising approach for developing clean-label functional drinks. Metabolite production and bioactive compounds should be further investigated to better characterize the functional potential of probiotic date juice.

Keywords: Lactic acid fermentation, Functional beverage, Probiotics, Date fruit, Lactobacillus

Development of HPLC-UV Method for Umami Analysis for Halal Ingredient Development using Hericium erinaceus mushroom.

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[1]Universiti Malaysia Sabah, [2]GSFC University Fertilizer Naga

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Abstract

Background – The increasing need for rapid, dependable, and halal-compliant analytical methods is important to identify and quantify compounds responsible for flavour, especially umami taste.

Purpose – A high-performance liquid chromatography coupled with ultraviolet detection (HPLC–UV) technique was established and validated to determine disodium guanylate (GMP) and disodium inosinate (IMP). These two nucleotides contribute to the umami taste, especially in mushrooms. These nucleotides from halal sources act as natural flavour enhancers that improve palatability. At the same time, it can reduce sodium levels in formulated foods. These findings align with current trends in developing healthier and halal-certified food products.

Design/methodology/approach – Chromatographic conditions were optimised to achieve clear separation of GMP and IMP using a Kromasil 100–5-C18 column (4.6×250 mm, Sigma-Aldrich) under isocratic elution and different buffer conditions. Extraction of GMP and IMP was performed using deionized $H2O$, 0.1 M HCl, and 6% AcOH.

Findings – The method displayed excellent $R^2 = 0.9989$ for GMP and 0.9958 for IMP, excellent RSD of 1.07% for GMP and 2.16% for IMP, and a good detection limit (LOD): 3.61 ppm and 7.30 ppm; quantification limit (LOQ): 10.93 ppm and 22.12 ppm for GMP and IMP, respectively. These results obtained high recovery rates from 91.4% to 95.0% confirming good accuracy and precision.

Research limitations – The proposed method was accurate and reproducible, but the use of UV detection remains a limiting factor. It may not effectively detect trace amounts of IMP and GMP components when compared to LC–MS-based approaches. Furthermore, this work focused exclusively on this type of mushroom; therefore, additional validation across other mushroom species and processed foods is necessary to ensure matrix stability and broader applicability.

Originality/value – The validated HPLC–UV method provides a reliable analytical tool for assessing umami-related nucleotides from halal sources such as mushroom matrices. It offers potential applications in flavour standardization and halal product formulation, thus supporting the development of nutritionally balanced and halal-compliant food products.

Keywords: food flavour, halal ingredients, lion mane mushroom, disodium guanylate (GMP), disodium inosinate (IMP)

Track:
Marketing

Positioning Strategies and Consumer Behavior toward Processed Halal Chevon Products: A Structural Equation Modeling Approach

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[1]University of Southern Mindanao

Abstract

Background – The increasing demand for Halal-certified foods drives local enterprises to develop value-added chevon products like Kagikit (flakes) and Cracklings. In the emerging Halal market of Region XII, understanding consumer behavior and acceptance is vital for creating effective positioning strategies and enhancing market competitiveness.

Purpose – This study aimed to examine consumer behavior, product acceptability, and positioning strategies for Halal Chevon Kagikit and Cracklings. Specifically, it sought to identify the socio-demographic profile, product characteristics, and behavioral determinants influencing purchase intention and to develop a validated structural model that explains these relationships.

Design/methodology/approach – A quantitative research design employing Structural Equation Modeling (SEM) was used to analyze the determinants of consumer behavior toward Halal Chevon products. Data were gathered through a structured survey administered to 410 respondents across Region XII, selected through stratified probability sampling. The instrument assessed respondents' socio-demographic profile, preferred product characteristics, buying behavior, consumer acceptability, and purchase intention.

Findings – Results revealed that students and mothers emerged as a significant consumer segment for Halal Chevon products. Their purchase decisions were largely driven by product quality, taste, packaging, and flavor, while price, ingredients, and safety further shaped how they perceived and valued the products. Both Halal Chevon Kagikit and Cracklings received generally favorable acceptance among consumers, reflecting a positive sensory appeal and market potential. Moreover, consumers expressed strong intentions to purchase these products, indicating confidence in the quality and Halal integrity. The behavioral model demonstrated a good overall fit, confirming that the proposed framework effectively captured the key factors influencing consumer behavior toward Halal Chevon products.

Research limitations – The focus on Region XII limits generalizability to other regions and cultural contexts. Future research should include cross-regional studies and qualitative approaches to gain deeper insights into cultural values, religious motivations, and attitudes influencing consumer behavior toward Halal food products.

Originality/value – This study offers empirical insights into consumer behavior toward locally produced Halal chevon products in the Philippines, guiding the development of positioning strategies that highlight quality, safety, and integrity to enhance consumer trust, brand reputation, and market competitiveness.

Keywords: Halal Chevon, Positioning, Acceptability, Intention, Modeling

Bibliometric Insights into Halal Tourism and Supply Chain Management Nexus

⎮ **Mohamed Syazwan Ab Talib**

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Abstract

Background – Halal tourism has become an increasingly important segment within the global tourism industry, driven by the rising demand from Muslim travellers seeking products and services that comply with Islamic principles. Despite the growing academic interest in halal tourism and halal supply chain management, studies often treat these fields separately, with limited research exploring their intersection.

Purpose – This study aims to provide a comprehensive bibliometric assessment of existing scholarship at the intersection of halal tourism and supply chain management. By analysing publication patterns, collaboration networks, and thematic developments, the research identifies the intellectual structure, key contributors, and emerging trends shaping the field.

Design/methodology/approach – The study employs a quantitative bibliometric approach using the Scopus database as the primary data source. 491 publications from 2000 to 2025 were retrieved using keywords related to "halal tourism," "halal hospitality," and "halal supply chain management." After data cleaning and refinement, the dataset was analysed using VOSviewer to perform co-authorship, co-citation, bibliographic coupling, and keyword co-occurrence analyses. Network visualisation techniques were used to uncover thematic clusters, collaboration patterns, and research evolution within the field.

Findings – Analysis reveals a growing academic interest in halal tourism and its linkages with supply chain management, particularly in recent years. Research is concentrated within a limited number of countries and institutions, with notable collaboration emerging among scholars from Southeast Asia and the Middle East. Thematic mapping identifies several dominant clusters, including halal certification and logistics, consumer behaviour, sustainability, and destination management. However, the intersection between halal tourism operations and supply chain governance remains underexplored.

Research limitations – The study is limited to publications indexed in Scopus and to works published in English. Despite this limitation, the results provide a valuable reference point for future research directions, particularly for scholars seeking to expand the conceptual and methodological scope of halal tourism and supply chain research.

Originality/value – This study represents one of the first bibliometric analyses examining the nexus between halal tourism and supply chain management. By mapping the intellectual landscape and identifying emerging research frontiers, it contributes to a clearer understanding of how halal tourism and supply chains intersect.

Keywords: Halal, Halal Tourism, Supply Chain Management; Bibliometric Analysis, VOSViewer

Halal Certification as a Trust Signal in Muslim Consumers' Purchase Intentions for Boocha Booms KombuchaD

│ **Bella Fujitha[1], Tri Wahyu Nugroho[2], Dian Suminar[3]**

[1] Bandung Islamic University [2] Universitas Islam Bandung [3] Independent Researcher

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Abstract

Background – Kombucha, a fermented tea with probiotic benefits, is increasingly popular in Indonesia but remains controversial due to its natural ethanol content. Although MUI permits beverages with <0.5% ethanol (v/v), many Muslim consumers remain uncertain because of limited awareness and trust in halal certification. Existing studies mostly address conventional halal foods quantitatively, leaving a research gap on how halal certification and trust shape purchase intentions for emerging fermented products like kombucha.

Purpose – This study explores how halal certification and consumer trust affect purchase intention toward Boocha Booms kombucha, a local SME product lacking formal certification. It also extends the Theory of Planned Behavior by introducing trust as a mediator between halal certification and purchase intention in fermented functional beverages.

Design/methodology/approach – This study uses a qualitative case study approach on Boocha Booms kombucha in Indonesia, involving 12 Muslim consumers through interviews, observations, and document analysis. Data were thematically analyzed using NVivo, following Braun and Clarke (2006), with validity ensured through triangulation, member checking, and an audit trail.

Findings – The study found three consumer views on ethanol in kombucha—strict rejection, conditional acceptance, and unawareness. Trust mediates the link between halal certification and purchase intention, strengthened by MUI credibility, brand transparency, and community support. Lab tests showed 0.07% ethanol, confirming halal compliance. SMEs can build trust through clear labeling, education, and formal certification.

Research limitations – The study's limitations include a small sample size (12 participants). The findings are exploratory and may not be generalizable to all Muslim consumers in Indonesia. Future research could employ quantitative or mixed-method approaches to statistically validate the relationships between halal certification, trust, and purchase intention.

Originality/value – This study contributes to the literature by extending the Theory of Planned Behavior with the mediating role of trust in the halal purchase context. It offers empirical insight into how Muslim consumers perceive halal credibility in an emerging functional beverage category. Practically, it provides guidance for SMEs to strengthen consumer trust through integrated halal communication, transparency, and formal certification strategies.

Keywords: Halal Certification, Kombucha, Consumer Trust, Purchase Intention, Muslim Consumers

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Sultan Haji Hassanal Bolkiah Islamic Khazanah Hall: Showcasing the Power of Islamic Faith and Scientific Insight in Brunei Darussalam

│ **Hjmuhammadruzaini Binhjmohddaud**

Archaeology Officer at Sultan Haji Hassanal Bolkiah Islamic Khazanah Hall

Abstract

Background – The Sultan Haji Hassanal Bolkiah Islamic Khazanah Hall is a premier gallery in Brunei Darussalam that bridges Islamic faith and scientific knowledge. Through exhibits on paleontology, gemology, astronomy, and Brunei's biodiversity, it highlights how natural phenomena reflect Allah's greatness, as affirmed in the Qur'an. The gallery also features artefacts belong to His Majesty Sultan Haji Hassanal Bolkiah, underscoring national heritage and commitment to learning. Traditional astronomical instruments demonstrate how Muslims historically determined the qibla, prayer times, and navigation. The gallery further recognises women's contributions to Islamic science, notably Mariam al-Ijliya, a 10th-century astronomer and astrolabe maker, inspiring visitors and affirming women's roles in advancing knowledge.

Purpose – The gallery offers a unique gallery where science and Islamic faith converge, positioning it as a premier Islamic tourism destination. It showcases Brunei's rich flora and fauna, traces the development of Islamic astronomy, and highlights women's roles in crafting astronomical instruments. The exhibition integrates scientific exploration with Qur'anic teachings, underscoring the enduring harmony between knowledge and faith.

Design/methodology/approach – The study adopts a qualitative, practice-based approach, drawing on the author's experience as an Archaeology Officer. Methods include systematic exhibition observations, curation and display analysis, and informal visitor engagement assessment conducted during science- and spirituality-related activities.

Findings – Exhibitions effectively integrate science and Islamic teachings, enhancing spiritual and intellectual learning. Interactive displays increase visitor engagement, awareness of Islamic heritage and scientific knowledge. Biodiversity exhibits foster appreciation for Brunei's ecological richness. Showcasing figures like Mariam al-Ijliya promotes awareness of women's contributions. Effective use of traditional artefacts and modern exhibition techniques enhances understanding and engagement. The gallery promotes Brunei as a hub for faith-based, cultural, and educational tourism.

Research limitations – The study's focus on gallery allows for deep, context-specific insight, but this narrow scope also means its findings have limited generalisability to other settings.

Originality/value – This research illustrates the integration of science and Islamic spirituality, highlights women's historical contributions to knowledge, and shows how strategically curated exhibitions engage visitors while positioning Brunei as a leading destination for faith-based and educational tourism.

Keywords: marketing, gallery, tourism, heritage, Brunei Darussalam

Exploring the Nexus between Digital Marketing and Halal Consumer Behavior: A TikTok-Based Study

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Abstract

Background – The rapid growth of social media platforms like TikTok has transformed marketing strategies, particularly in niche markets such as halal businesses.

Purpose – This research explores how TikTok influences consumer behaviour, brand perceptions, and purchase intentions in the halal business sector, focusing on halal cosmetics, fashions, and food products. By examining variables such as influencer credibility, content marketing, social media interaction, and customer engagement, the study seeks to identify key factors that drive purchase intentions among Muslim consumers on TikTok.

Design/methodology/approach – The research will employ qualitative methods, including surveys and interviews with TikTok users, to analyse the impact of the company's marketing strategies on halal product consumption.

Findings – The findings are expected to offer practical recommendations for halal business marketers to optimise their social media presence and engagement to enhance brand trust and consumer loyalty.

Research limitations – The limitations of the study only focus on TikTok mobile commerce, not including other mobile commerce platforms.

Originality/value – The novelty of this study lies in being among the first to systematically analyse TikTok as a platform for halal product promotion, integrating perspectives from digital marketing, Islamic consumer behaviour, and consumer engagement, thereby filling a gap in both theory and practice.

Keywords: Consumer Behaviour, Halal, Marketing, Mobile Commerce, TikTok

Track:
Artificial Intelligence

Multi-Scene Vision–Language and Local LLM Pipeline for Suspicious Behavior Detection in Mosques

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Abstract

Background – Detecting harmful or suspicious behaviors such as theft, sexual harassment, and gun violence remains a critical challenge in public spaces, particularly in sensitive environments like mosques. Vision language models (VLMs) such as Moondream can recognize multi-frame actions but require reasoning support to evaluate interactions across time.

Purpose – This study develops a multimodal surveillance pipeline for mosques using multi-scene montage images or single-frame prompts. The pipeline processes these inputs with a VLM and interprets the outputs with a local language model to detect suspicious behaviors efficiently and accurately.

Design/methodology/approach – Video frames from mosque CCTV footage are sampled at one or two scenes per second. The frames are then organized into either single-scene prompts, where each frame is processed individually, or eight-scene montage prompts, where eight frames are combined into a two-by-four layout. Montage images are processed with Moondream-1B to generate structured descriptions of observed actions. Local reasoning is performed using Phi-4 Instruct Q8 GGUF or Gemma-2B Q2, which produce final verdicts on suspicious behavior. Ablation experiments examine the impact of sampling rate and montage layout and optionally compare results to larger VLMs such as GPT-5.

Findings – Preliminary results suggest that multi-scene montages improve contextual understanding and the detection of theft, harassment, and gun-related threats in mosque settings. Single-scene prompts offer higher granularity, while local LLM reasoning enhances decision-making by balancing reasoning quality and inference speed.

Research limitations – Future research will explore the integration of advanced VLMs, optimization of montage and sampling strategies, and the implementation of privacy-preserving measures to ensure responsible deployment in sensitive environments.

Originality/value – This work introduces the combination of temporal montage-based VLM inputs with local LLM reasoning for multi-frame behavioral monitoring in mosques. The ablation study of sampling rate and montage layout provides insights into the trade-offs between temporal resolution, contextual understanding, and computational efficiency.

Keywords: Mosque surveillance, Vision–language models, Suspicious behavior detection, Multi-scene montage, Local language models

Integrating AI and Adaptive Learning in Islamic Education: Ethical Perspectives for the Digital Era 5.0

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Abstract

Background – Adaptive learning technologies and artificial intelligence (AI) are transforming education in the Digital Era 5.0, providing innovative opportunities for Islamic education. This research investigates how AI-powered adaptive platforms can respect moral standards based on Maqasid al-Shariah while balancing contemporary digital technologies with traditional Islamic education. By providing individualized education based on students' cognitive capacities, language proficiency, and cultural backgrounds, adaptive learning improves accessibility, comprehension, and engagement. Using a multidisciplinary approach that combines cognitive science, educational technology, and Islamic studies, the study looks at real-world applications in Southeast Asia, such as Thailand, Malaysia, and Indonesia, where AI helps with Arabic language learning, Quranic studies, and Islamic jurisprudence. Additionally, the study highlights key challenges, including data privacy, cultural sensitivity, and fair access, and proposes solutions based on moral AI frameworks. Studies show that AI can close the gap between innovation and tradition, creating a digital environment for Islamic education that is morally sound, adaptable, and sustainable. This study also explores how AI-powered adaptive learning can enhance Islamic education, enabling Muslim learners to bridge the gap between tradition and contemporary educational demands throughout the world.

Purpose – 1. To investigate how AI and adaptive learning are used in Islamic education. 2. To include Maqasid al-Shariah, or Islamic ethical precepts, in AI-powered learning platforms. 3. To recognise problems and provide fixes for morally sound digital Islamic education.

Design/methodology/approach – Qualitative Analysis

Findings – The findings show that when AI-enabled adaptive learning is governed by moral frameworks derived from the Qur'an and Sunnah, it improves engagement, personalization, and efficiency in Islamic education.

Research limitations – The study is limited to secondary data and is mostly conceptual in nature. Future research should test these theoretical ideas with real case studies from Islamic colleges and institutions using AI-based adaptive systems.

Originality/value – This paper presents a moral framework for incorporating AI into Islamic education that encourages harmony between tradition, faith, and technological advancement.

Keywords: Islamic Education, Artificial Intelligence (AI), Adaptive Learning, Maqasid al-Shariah, Digital Era 5.0

Machine Learning-Based Detection of Lard Adulteration from IRMS and TAG Chromatographic Data

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Abstract

Background – The authentication of fish feed ingredients is critical for ensuring compliance with Halal standards, particularly the absence of lard-derived fats.

Purpose – This study compares the analytical performance of high-performance liquid chromatography, and isotope ratio mass spectrometry (IRMS) for detecting lard adulteration in fish feed formulations

Design/methodology/approach – Triacylglycerol (TAG) and Delta C (C) were analyzed and integrated with chemometric and machine learning approaches to classify samples containing different proportions of lard and palm oil. Principal Component Analysis (PCA) and Partial Least Squares–Discriminant Analysis (PLS-DA) were employed for pattern recognition and exploratory classification, while Support Vector Machine (SVM) and Random Forest (RF) models were optimized using stratified cross-validation for predictive validation.

Findings – The SVM model achieved an overall accuracy of 82%, effectively distinguishing feed formulations containing as low as 2–6% lard. Variable Importance in Projection (VIP) and feature importance analyses consistently identified key discriminatory fatty acids, including POL, PPO, and C18:1, which contributed significantly to class separation.

Research limitations – Small dataset (54 replicates)

Originality/value – These results confirm that integrating chromatographic data with chemometrics and machine learning provides a reproducible, data-driven workflow for reliable and scalable authentication of Halal fish feed ingredients.

Keywords: TAG, Delta C, lard, oil, fish feed

Rapid Pork Adulteration Detection Using Colour and Texture Analysis Coupled with Machine Learning

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Abstract

Background – Food adulteration is a serious crime that violates consumers' trust, public health and religious dietary practices. This raises concern for the population with dietary restrictions, such as Muslims, since pork is prohibited in Islam. The colour similarity between pork and chicken and the textural resemblance between beef and pork facilitate the adulteration since the original morphological characteristics were destroyed. The conventional methods, like PCR and chromatography, are accurate, but it impractical for rapid, onsite adulteration detection due to the lengthy and tedious procedures.

Purpose – This study aims to develop a rapid, low-cost method for pork adulteration detection in minced beef and chicken by integrating colour and mechanical texture features with supervised machine learning models.

Design/methodology/approach – Fresh minced beef and chicken were adulterated with pork at five concentration levels (0%, 25%, 50%, 75%, and 100%). Colour features were extracted using a machine vision system, while texture parameters were obtained using a texture analyzer. Three machine learning algorithms, including Random Forest (RF), Decision Tree (DT), and K-Nearest Neighbour (KNN) were trained, tested, and validated using the same dataset for a multiclass classification. Model performance was evaluated based on the model accuracy.

Findings – Among the models tested, Random Forest achieved the highest classification accuracy (92.59%), followed by KNN (87.04%) and Decision Tree (81.48%). These high-accuracy model performance results indicate that the colour and texture data combination has high discriminatory power.

Research limitations – This study was conducted under controlled laboratory conditions using a limited number of meat sources. Sensitivity testing at lower adulteration levels (<25%) was not performed, limits the assessment of the model's detection threshold.

Originality/value – This study demonstrates the potential of integrating image-based colour analysis and mechanical texture profiling with machine learning, highlighting the underutilized potential of texture features in halal authentication studies. The results indicate that colour and texture parameters contain high discriminatory information for detecting pork adulteration levels. The proposed approach provides a practical foundation for developing low-cost, reliable, portable tools for scalable field applications, enabling rapid on-site screening and inspection to support halal integrity and food traceability.

Keywords: Pork adulteration detection, machine vision, texture analysis, supervised machine learning, halal authentication

Track:
Green Technology

Halal and Tayyiban Food Security: Towards an Ethical and Sustainable Global Food System

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Abstract

Background – Food security is traditionally defined by four key pillars—availability, accessibility, utilisation, and stability. However, from an Islamic perspective, the concept extends beyond physical and economic access to encompass moral, spiritual, and ethical dimensions, as represented in the Halalan Tayyiban framework. This principle emphasises that food must not only be lawful (halal) in accordance with Shariah law but also wholesome (tayyiban), ensuring cleanliness, safety, and ethical integrity throughout the supply chain. Growing global concerns over sustainability, climate change, and food system resilience have renewed interest in exploring how Halalan Tayyiban values can complement conventional approaches to food security.

Purpose – This study aims to explore how Halal and Tayyiban principles can be integrated into the broader discourse on food security to promote a more sustainable, ethical, and spiritually conscious global food system. It seeks to identify the potential of these principles to enhance resilience, trust, and inclusivity within food supply chains.

Design/methodology/approach – This paper employs a systematic literature review approach, synthesising findings from peer-reviewed publications, institutional reports, and policy documents that address the intersections between halal assurance, sustainability, and food security. The review identifies key themes, conceptual relationships, and policy implications that emerge from the literature.

Findings – The analysis reveals that Halalan Tayyiban food security strengthens traditional food security models by incorporating ethical, environmental, and social justice dimensions. Upholding tayyiban standards promotes responsible production and consumption, enhances consumer confidence, and encourages sustainable resource management. The findings underscore the importance of multi-stakeholder collaboration, effective halal governance, and transparency in ensuring that food systems remain both secure and spiritually meaningful.

Research limitations – This study is based on secondary data and conceptual analysis. Future empirical research is needed to test the operationalisation of Halalan Tayyiban principles across different cultural and institutional contexts.

Originality/value – This paper contributes to the emerging global dialogue on Islamic perspectives in sustainable food systems. It offers a holistic conceptual framework that integrates Halal and Tayyiban values into the broader agenda of global food security, promoting an ethical, resilient, and spiritually aligned approach to feeding the world.

Keywords: Halal, Tayyiban, food security, sustainability, ethical food systems

Advancing Halal Functional Ingredients through Green Production of ACE-Inhibitory Peptides from Marine Collagen

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Abstract

Background – The rising global demand for Halal-certified functional ingredients has amplified interest in marine-derived bioactive compounds. Barramundi collagen, sourced from aquaculture by-products, represents a sustainable and Halal-compliant biomaterial rich in amino acids known to yield bioactive peptides. Among these, angiotensin-converting enzyme (ACE)-inhibitory peptides are of relevance due to their potential antihypertensive effects. However, the development of Halal, clean-label peptide ingredients is often limited by conventional extraction techniques that rely on chemical reagents or non-Halal enzymatic processes.

Purpose – This study aimed to identify peptide fractions with the strongest ACE-inhibitory potential and evaluate their characteristics.

Design/methodology/approach – Barramundi collagen was hydrolysed using subcritical water treatment at 200 °C and 70 bar for 5 min, an environmentally friendly method that eliminates the need for chemical or enzymatic hydrolysis. The resulting hydrolysate was then fractionated via ultrafiltration into three molecular-weight groups (>10 kDa, 3–10 kDa, and <3 kDa). ACE-inhibitory activity was assessed for each fraction, and the most active fraction was further evaluated for its stability against simulated gastrointestinal digestion and its inhibition pattern. Peptide sequences and molecular sizes were subsequently identified using mass spectrometry.

Findings – The <3 kDa fraction (F3) exhibited the highest ACE-inhibitory activity, which was strongly associated with its enriched bioactive amino acid composition. Hydrophobic residues (proline, hydroxyproline) and aromatic amino acids (tyrosine, phenylalanine) contributed to strong interactions with the ACE active site, while positively charged amino acids (arginine, lysine) enhanced electrostatic binding. Mass spectrometry revealed peptide sizes ranging from 400 Da to 2 kDa. The combination of subcritical water hydrolysis and ultrafiltration effectively concentrated these low-molecular-weight peptides.

Research limitations – The study was limited to in vitro ACE-inhibitory activity and peptide characterization. In vivo evaluation was not conducted, yet it is crucial to verify the antihypertensive effects in a living system.

Originality/value – This research establishes a Halal-compliant green process for producing ACE-inhibitory peptides from marine collagen, offering sustainable bioactive ingredients for incorporation into nutraceuticals and functional food formulations aimed at supporting hypertension management. However, as the findings are based solely on in vitro ACE-inhibition, further in vivo and formulation studies are required to confirm physiological efficacy and product stability before commercial application.

Keywords: subcritical water hydrolysis; ultrafiltration; barramundi collagen; antihypertensive peptides

Track:
Molecular Biology

Comparative Analysis of Gut Microbiota in Post-Mortem Chronic Alcoholics versus Minimal to No Alcohol Users in the Thai Population

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Abstract

Background – Chronic alcohol consumption contributes to liver disease, alcohol use disorder, and gut dysbiosis. However, post-mortem microbiome changes remain understudied, especially in Thai population. Exploring these alterations can offer insights relevant to clinical and forensic investigations of alcohol-related deaths.

Purpose – This study investigated the impact of chronic alcohol consumption on gut microbiota by comparing post-mortem cecal and fecal samples from alcoholic and non-alcoholic individuals. Microbial differences between intestinal sites were also examined within each group to assess spatial variation in gut communities.

Design/methodology/approach – Cecum and fecal samples were collected from 24 post-mortem cadavers (12 chronic alcoholics and 12 controls). The bacterial 16S rRNA gene (V3–V4 regions) was sequenced on the Illumina MiSeq platform, and taxonomic classification was performed in QIIME. Alpha diversity (ACE, Chao1, Shannon) and beta diversity (PCoA) analyses were conducted to assess microbial richness and community composition. Statistical differences between groups and intestinal sites were evaluated using t-tests and PERMANOVA (adonis).

Findings – In cecal samples, the chronic alcohol group showed reduced Firmicutes and increased Actinobacteria, Fusobacteria, and Proteobacteria compared with controls, indicating alcohol-associated microbial shifts. Beta diversity analysis (PCoA) confirmed a detectable compositional difference between groups. In fecal samples, Clostridium abundance was higher in alcoholics than in controls. Within the alcoholic group, Firmicutes were more abundant in cecum, while Actinobacteria were lower compared to feces. Among controls, Actinobacteria and Bacteroidetes were enriched in feces, whereas Firmicutes predominated in the cecum. Alpha diversity (ACE and Chao1 indices) revealed significantly greater species richness in fecal samples.

Research limitations – This study was based on post-mortem cadavers, with limited sample size that reduced statistical power. Uncontrolled factors such as prior antibiotic use, diet, lifestyle, and individual variability served as potential confounders. Despite sampling within 24 hours of death, early decomposition or post-mortem interval variation may also have affected microbial profiles.

Originality/value – This study is the first to characterize post-mortem gut microbiota in Thai individuals with chronic alcohol use, revealing distinct microbial patterns between groups and intestinal sites. The results suggest alcohol-related microbial signatures with potential clinical and forensic value for assessing chronic alcohol exposure.

Keywords: Chronic alcoholic, gut microbiome, post-mortem samples, microbial dysbiosis

Comparative Analysis of Gut Microbial Diversity in Early Decomposition Stages of Human Cadavers in Thai Population

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Abstract

Background – The human microbiome plays a vital role in maintaining health and normal bodily functions during life. However, its fate after death remains poorly understood. Microbes are closely linked to decomposition, influencing its progression through distinct stages. Understanding these postmortem microbial shifts not only deepens our knowledge of decomposition but also offers potential for estimating the postmortem interval (PMI). In this study, we assess the microbial diversity of cecum samples as a baseline for future PMI estimation.

Purpose – To assess and compare the microbial composition, diversity, and abundance in the cecum of human cadavers within the Thai population, and to evaluate changes in these microbial parameters during the early post-mortem period between 1–6 hours and 6–12 hour.

Design/methodology/approach – Cecum samples were collected and divided by postmortem interval: Group 1 (1–6 h) and Group 2 (6–12 h). Samples were stored at −80 °C under sterile conditions. Microbial DNA was extracted using the ZymoBIOMICS™ DNA Miniprep Kit and quantified with a QIAxpert. The 16S rRNA V3–V4 regions were sequenced on an Illumina MiSeq, clustered into 97% OTUs, classified via the SILVA database, and analyzed for alpha/beta diversity and biomarker taxa using LEfSe.

Findings – Distinct bacterial communities were observed between the two postmortem intervals. Agathobacter was notably abundant in Group 5 (1–6 h), while Butyricicoccaceae and Butyricicoccus were predominant in Group 6 (6–12 h). These temporal variations illustrate an early microbial succession pattern, where the initial prevalence of Agathobacter transitions to the dominance of butyrate-producing taxa, potentially providing valuable indicators for the precise estimation of short postmortem intervals in forensic studies.

Research limitations – As this study involved human subjects, obtaining a large sample size was difficult due to limited suitable cases and ethical or logistical constraints of postmortem sampling. Future studies may overcome these challenges through broader collaborations, multi-center sample collection, and standardized protocols to enhance sample accessibility and representativeness.

Originality/value – There has been no prior research in Thailand examining microbial diversity in human cadavers. Moreover, the early postmortem interval (1–12 hours), which is critical for forensic investigations, remains underexplored. This gap highlights the importance of the present research.

Keywords: Gut microbial diversity, Postmortem interval estimation, Human cadaver decomposition, Microbial succession, Postmortem microbial changes

Track:
Islamic Finance

Faith-Driven Consumer Choices: Exploring the Role of MUI Fatwa in Moderating the Effect of Boycott Motivation on Gen Z's Purchasing Behavior

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Abstract

Background – The global proliferation of product boycotts highlights a growing ethical consciousness among consumers, especially Generation Z, known for their digital connectivity and heightened social awareness. In Indonesia, this phenomenon gained significant traction after MUI Fatwa No. 83/2023 urged Muslims to abstain from products associated with political or humanitarian transgressions. This investigation thus explores the interplay between this faith-based directive and boycott motivation in shaping Indonesian Gen Z consumers' purchasing behavior concerning L'Oréal Group products.

Purpose – The research aims to examine the influence of boycott motivation on purchasing decisions and assess whether the MUI Fatwa moderates this relationship. It seeks to clarify whether religious guidance amplifies or diminishes Gen Z's boycott-driven consumption patterns.

Design/methodology/approach – This quantitative study employs Partial Least Squares–Structural Equation Modeling (PLS-SEM) using SmartPLS 4.1. A total of 384 respondents, representing Indonesian Gen Z consumers aged 12–29, participated through an online survey. The model tested the relationships among Boycott Motivation (X), MUI Fatwa (Z), and Purchase Decision (Y) with a 5 percent significance level.

Findings – Results show that boycott motivation significantly and positively influences purchase decisions (T = 11.870; β = 0.560). The MUI Fatwa also has a direct positive effect (T = 5.991; β = 0.303), underscoring the role of religious authority in ethical consumption. However, its moderating effect is insignificant (T = 2.953; β = –0.034), indicating that Gen Z's boycott participation is driven more by humanitarian and social solidarity than by formal religious edicts.

Research limitations – The study focuses only on L'Oréal Group and Indonesian Gen Z, limiting broader generalization. Data collected via self-reported online surveys may also involve response bias.

Originality/value – This research offers an empirical contribution to the study of Islamic consumer ethics, integrating religious authority with behavioral economics. It provides insights for policymakers, marketers, and scholars on how faith and social consciousness jointly influence purchasing behavior in Muslim-majority markets.

Keywords: Boycott Motivation, Religious Moderation Effect, Faith-Based Consumer Behavior, Generation Z Purchase Decision, Islamic Economics

From Purity to Justice: Rethinking Digital Halal Governance as a Political-Theological Project in the IMT-GT Corridor

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Abstract

Background – The global halal economy's digital turn especially blockchain-based certification has been promoted as a breakthrough for transparency and market confidence. Within the IMT-GT, these technologies underpin an ambitious regional halal-hub agenda linking laboratories, logistics, and state-religious authorities. Digital infrastructure reflects a technocratic logic that reduce halal to chemical purity and data traceability, ignoring its theological focus on justice and trust within the maqasid al-shari'ah.

Purpose – This study rethinks digital halal governance as a political-theological project, this term refers to a form of government in which the power to regulate halal certification is linked to moral legitimacy and theological ideas of justice. It examines whether the halal system itself not merely its products can promote justice and moral accountability in the IMT-GT corridor.

Design/methodology/approach – Using a comparative desk analysis, the paper examines two architectures of halal digitalisation: (1) Thailand's laboratory-led Halal Blockchain Initiative at the Halal Science Center, and (2) Indonesia's BPJPH state-centric halal regime. The study uses three different ways of looking at things: (a) halal as a social and technical trust system, (b) a critical political economy of digital governance, and (c) Islamic ethics of justice based on maqasid reasoning. Primary and secondary policy documents, academic studies, and institutional reports are interpreted thematically.

Findings – Blockchain enhances traceability but does not automatically democratise authority. It tends to concentrate power among technocratic or bureaucratic leaders, marginalize halal SMEs, and turn halal into a commodity as a national or corporate brand. The new discussion about "Green Halal" shows how ethical language can be used in green marketing without addressing unfair labor precarity or ecological inequality.

Research limitations – As this is a theoretically driven and regionally focused study, filed research is needed to assess how digital platforms influence farmers, workers, and halal SMEs throughout the IMT-GT supply chain.

Originality/value – The paper offers a justice-oriented analytical framework for digital halal governance, integrates Islamic political economy and technological power. By repositioning IMT-GT as a living laboratory for maqaṣid-based innovation, it advances a normative question for policymakers and scholars alike: Can Islamic finance systems resist the reduction of halal to market value and restore its ethical foundation of justice?

Keywords: halal governance; blockchain politics; maqaṣid justice; Islamic political economy; digital certification

Halal Integrity in Heavy Industry: A Governance–Leadership–Sustainability Model for Hengyi Petrochemical Complex

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Abstract

Background – Halal governance is traditionally associated with food and pharmaceuticals. Its extension into heavy industry, however, introduces complex challenges related to supply chain transparency, material purity, and Shariah-compliance in technically complex processes. Brunei's Hengyi Petrochemical Complex, as a flagship industrial entity, operates within a high-risk, high-volume supply chain where ethical and religious compliance intersects with global standards, creating a critical gap in practical governance frameworks.

Purpose – This study aims to develop and propose a novel hybrid framework that integrates stringent legal governance, values-based leadership, and sustainability principles to ensure Halal integrity in a heavy industry context. Using the Hengyi Complex as a central case, the research seeks to establish a benchmark for ethical industrial governance within ASEAN.

Design/methodology/approach – The research adopts a conceptual approach, synthesising secondary data from authoritative sources, including Brunei's Halal guidelines, peer-reviewed articles on Islamic governance and sustainable leadership, and industry-specific reports on the petrochemical sector. The proposed model combines governance and leadership integration with the Triple Bottom Line (People, Planet, Profit) through a Halal-Tayyiban lens, emphasising amanah (trust), tayyib (wholesomeness), and maslahah (public good).

Findings – The analysis indicates that robust Halal integrity in heavy industry depends on a dual foundation of rigorous legal compliance and proactive, values-driven leadership. Practices at Hengyi—such as stringent supplier audits, Shariah-based contractual clauses, and ethics-focused workforce training—demonstrate how this convergence operates in practice. Furthermore, embedding sustainability principles directly enhances corporate legitimacy and market positioning, aligning industrial outputs with both Islamic values and universal sustainability targets.

Research limitations – As a conceptual study, its findings are derived from secondary data. Future research should empirically validate the framework through qualitative case studies and quantitative surveys to assess its practical efficacy and impact across different industrial contexts.

Originality/value – This paper's primary contribution is a first-of-its-kind hybrid model that systematically extends Halal governance into the non-consumer heavy industry sector. It provides actionable insights for policymakers and corporate leaders aiming to align large-scale industrial operations with religious ethics, thereby positioning Brunei as a pioneer in this emerging field.

Keywords: Halal governance, heavy industry, sustainable leadership, petrochemical ethics, Brunei

Track:
E-Business

HalalGuide: Halal Certification Portal with Establishment Finder

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Abstract

Background – The expansion of halal-friendly tourism in the Philippines is constrained by the absence of a centralized and credible platform for tourists to access halal-certified establishments. Moreover, the existing halal certification process for local businesses is fragmented and largely manual, resulting in inefficiencies that hinder trust, accessibility, and scalability.

Purpose – This study aims to develop HalalGuide: Halal Certification Portal with Establishment Finder, a web-based platform designed to digitize the halal certification process and provide an integrated directory of verified halal establishments. The project aims to enhance transparency, efficiency, and user trust while supporting the country's efforts toward inclusive and technology-driven halal tourism.

Design/methodology/approach – The system was developed using HTML, CSS, JavaScript, PHP, and MySQL, guided by the Scrum agile methodology to promote iterative design, collaboration, and continuous feedback. It integrates several core modules—Halal Certification Application, Establishment Listings, Interactive Mapping, User Feedback, and Administrative Management—overseen by the Mindanao Halal Authority (MINHA) and the National Commission on Muslim Filipinos (NCMF). The system's functionality and usability were evaluated through user testing involving tourists, business owners, and representatives from certifying bodies.

Findings – Results revealed that HalalGuide effectively streamlined the certification process and improved user accessibility to verified halal establishments. All stakeholder groups, including MINHA and NCMF, rated its performance as "excellent," citing enhanced efficiency, reliability, and satisfaction. Feedback also affirmed that the system significantly increased transparency and user confidence within the halal tourism ecosystem.

Research limitations – The system's current scope is limited to South Cotabato and relies on stable internet connectivity, third-party mapping APIs, and timely updates from administrators and business owners. Expanding the platform nationwide and integrating advanced analytics are recommended directions for future development.

Originality/value – HalalGuide represents one of the first Philippine-developed digital platforms that integrate halal certification management with an establishment finder within a secure and privacy-compliant digital environment. Its incorporation of cybersecurity measures ensures long-term sustainability, fosters user trust, supports halal business growth, and aligns with the national vision for inclusive and technology-driven halal tourism.

Keywords: Halal Certification Portal, Halal-certified Establishments Finder, Halal-friendly Tourism, Web-Based System, Tourism Technology

Challenges and Motivation of Daughters in Sustaining Leadership Roles in Family Businesses

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Abstract

Background – Family businesses contribute significantly to Indonesia's economy, accounting for 82% of national GDP and 95% of existing enterprises. Despite this central role, succession remains a persistent challenge, with only 30% of businesses surviving into the second generation and 13% into the third. Within this landscape, daughters encounter unique difficulties shaped by gendered expectations, legitimacy struggles, and cultural norms that often limit their access to leadership. As more women gain higher education and enter professional environments, addressing these obstacles becomes crucial for building an inclusive and sustainable family business succession framework. This study offers a focused examination of the gendered succession dynamics that influence daughters' pathways to leadership—highlighting their challenges, motivations, and agency in transforming family enterprises.

Purpose – This research aims to (1) identify the specific barriers daughters encounter in assuming leadership roles, (2) explore the motivations and enabling factors that strengthen their intention to lead, and (3) propose strategic pathways to enhance their leadership readiness and contribution to long-term business continuity.

Design/methodology/approach – A descriptive qualitative design was employed, involving eight purposively selected female participants from the Second Generation Program at Universitas Ary Ginanjar who were actively involved or preparing for involvement in their family enterprises. Data were collected through semi-structured interviews, analyzed using thematic analysis via NVivo 15, and validated through triangulation between interview data and program documentation.

Findings – The findings show that daughters face intertwined challenges including generational mindset disparities, gender-based legitimacy issues, and competing personal–familial role demands. However, these challenges are countered by intrinsic motivation, self-awareness, parental trust, innovation capability, and leadership development programs. The study also reveals that structured governance—particularly through formalized managerial systems and family constitutions—supports a shift from traditional patriarchal succession toward merit-based, collaborative models. Sustainable leadership emerges when personal resilience aligns with supportive family structures and institutional empowerment.

Research limitations – While limited by its small, context-specific sample, this study provides valuable insight into daughters as active agents rather than passive successors.

Originality/value – It contributes to the literature by integrating gender, leadership, and governance perspectives and offers practical implications for designing inclusive succession strategies that strengthen women's leadership roles and ensure intergenerational business sustainability.

Keywords: Family Business Succession, Female Leadership, Gender and Entrepreneurship, Intergenerational Transition, Empowerment of Daughters

Track:
Environment
Technological

Supported by :

Reframing Corporate Sustainability through Maqashid Syariah: Evidence from Indonesia's Green Industry

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Abstract

Background – The growing environmental degradation in Indonesia has emphasized the urgency of sustainable industrial practices. PT Tirta Investama Tanggamus, a subsidiary of Danone-AQUA, represents an important case where green management principles intersect with Islamic ethical frameworks. The Maqashid Syariah—as the philosophical foundation of Islamic law—provides a holistic lens for evaluating corporate environmental responsibility through protection of life (hifzh al-nafs), wealth (hifzh al-mal), and posterity (hifzh al-nasl).

Purpose – This study analyzes green management at PT Tirta Investama Tanggamus through a Maqashid Syariah lens, identifying enabling and inhibiting factors and evaluating socio-economic and ecological impacts on communities, clarifying how Islamic ethics shape sustainability practices and environmental governance.

Design/methodology/approach – This qualitative case study integrates a literature-enriched design with source triangulation across company representatives, local policymakers, and community stakeholders. The empirical base comprises four interview transcripts and a secondary corpus of 47 news articles, 38 scholarly journals, 32 books, and 6 reports, all coded and visualized in NVivo 12 Pro. Analysis followed Miles & Huberman's interactive cycle (data reduction, display, conclusion), ensuring credibility through cross-source corroboration and theory-informed coding aligned with Maqashid Syariah.

Findings – The study finds that PT Tirta Investama's green management practices strongly align with ISO 14001:2015 environmental standards and Maqashid Syariah principles. Environmental policies and operations reflect hifzh al-nafs (protection of life) through sustainable water and waste management, and hifzh al-mal (protection of wealth) through fair resource use and local economic contribution. Stakeholder engagement further embodies maslahah (public benefit) and 'adl (justice) by empowering communities in environmental stewardship. However, challenges persist in participatory communication and differing community perceptions of water access. Overall, triangulated qualitative evidence confirms that Maqashid Syariah reframes corporate sustainability as spiritual accountability, extending beyond compliance toward ethical and holistic stewardship.

Research limitations – The study is confined to a single-site, time-bounded case relying primarily on qualitative evidence; future work should incorporate quantitative environmental performance indicators and multi-site comparisons to test transferability.

Originality/value – This research bridges Islamic jurisprudence and contemporary environmental management by proposing a Maqashid Syariah–based evaluative model for green industry governance, demonstrating how faith-driven ethical principles reinforce sustainability beyond compliance, advancing stewardship, accountability, and stakeholder legitimacy in Muslim-majority contexts.

Keywords: Keywords: Green Management, Maqashid Syariah, Sustainability, Islamic Economics, Corporate Environmental Responsibility.

Track:
Health
Sciences

CTCF Regulation of CEMIP: Novel and Translational Target for Drug Resistant Prostate Cancer

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Abstract

Background – Prostate cancer is the seventh highest cause of cancer death among males, accounting for more than 375,000 fatalities in 2020 and it is a second-leading cause of cancer death in American men. Novel techniques for therapy are required to tackle chemo-resistant prostate cancer.

Purpose – To investigate the epigenetic and transcriptional role of 11-zinc finger protein (CTCF) on CEMIP that drives its metastatic phenotypes in aggressive prostate cancer and Novel and translational target for drug resistant prostate cancer

Design/methodology/approach – ChIP-Atlas and UCSC Genome Browser were used as a tool to examine CTCF and its binding site with CEMIP. CEMIP was knock-downed (si-RNA) and overexpressed (OE) with lentivirus in androgen-insensitive (DU145, PC-3) and androgen-sensitive (LNCaP) human prostate cancer cell lines. We then performed 3D spheroid model (Aggrewell method) to furtherly confirm that the knock-down and overexpression of CEMIP play crucial role in 3D spheroid formation in castration-resistant prostate cancer cell lines with statistical analysis from GraphPadPrism software.

Findings – The results revealed the significant epigenetic shift of CEMIP at promoter region affected by CTCF. The results from RT-qPCR confirmed the successful knock-down and overexpression. The knock-down displayed cytotoxic effects against cancer cells ($p < 0.05$) while the overexpression of CEMIP increased cancer cells proliferation ($p < 0.05$). Moreover, cancer cells form less aggregation after si-CEMIP but better 3D structure in OE. Thus, we confirmed that CEMIP drives tumor metastasis and 3D spheroid formation in castration-resistant prostate cancer cell lines

Research limitations – Further in vivo and clinlcal validation is required

Originality/value – Our investigations provide compelling and novel evidence that CEMIP has role as oncogene in androgen-resistant prostate cancer. Overall, our outcomes reveal that CEMIP may have potential as a future therapeutic target in prostate cancer.

Keywords: prostate cancer, CEMIP, CTCF

CLOSING SPEECH

Assalamualaikum Warahmatullahi Wabarakatuh,

Excellencies, Presenter, Attendees,

Ladies and Gentlemen,

It is a great honor and joy for me to deliver the closing remarks for this year's IHSATEC 2025: 18th HASIB. The committee has successfully managed the conference, ensuring that breakout sessions and presentations proceeded with minimal technical issues. Throughout the event, we engaged in insightful discussions and had the opportunity to share the outcomes of our research.

I extend my gratitude to all participants, speakers, presenters, attendees, and session chairs from various countries for their significant contributions to IHSATEC 2025: 18th HASIB. Special thanks to the hardworking committee members for their dedication.

IHSATEC 2025: 18th HASIB highlighted the need of further and diverse research on the subjects of Halal studies, both in industry business, and technology. The presented research in this conference underscored the vital role of universities, higher education institutions, government, society, and related stakeholders in leading the application of the concept of halal studies in all fields.

In conclusion, IHSATEC 2025: 18th HASIB, hopefully has provided valuable insights into the strategic approach needed for the modern and changing world. I appreciate the significant contributions made during this conference and hope that the shared knowledge and thoughts, along with new networks and friendships, will bear new collaborations ahead. Congratulations to the award winners for the best presentation, best papers, and all session chairs involved in this conference.

See you at our upcoming event.

Keep in touch and thank you very much for your attention. Stay safe and healthy.

Best regards,

Dr. Pornpimol Mahamad
Conference Chair of IHSATEC 2025: 18th HASIB

Future Events

ICISMA

International Conference on the Synergy of Islamic and Multidisciplinary Approaches (ICISMA)
https://icisma.com/
Virtual Conference - February 11-12, 2026

11th RESBUS

11th International Conference on Interdisciplinary Research on Education, Economic Studies, Business and Social Science (11th RESBUS)
https://resbusconference.com/
Virtual Conference - February 24, 2026

10th ESBEM

10th International Conference on Entrepreneurship Studies, Business, Economy, and Management Science (10th ESBEM)
https://esbem.com/
Virtual Conference - March 10, 2026

12th BEMSS

12th International Conference on Business, Economy, Management and Social Studies Towards Sustainable Economy (12th BEMSS)
https://www.bemssconference.com/
Virtual Conference - April 22, 2026

10th IBEMS

The 10th International Conference on Interdisciplinary Business, Economy, Management, and Social Studies (10th IBEMS)
https://www.ibemsconference.com/
Hybrid Conference - July 3, 2026

11th MASOS

11th International Conference on Management Studies and Social Science (11th MASOS)
https://www.masosconference.com/
Virtual Conference - August 11, 2026

2nd ICBAS

2nd International Conference on Business and Administrative Sciences Research (2nd ICBAS)
https://icbasconference.com/
Hybrid Conference - September 21-22, 2026

7th MESS

7th International Conference on Management, Education, and Social Science (7th MESS)
https://messconference.com/
Hybrid Conference - October 6, 2026