ICRTMDR
by IFERP
13-14 November 2026 | Dubai, UAE



ICRTMDR - 2026

9th International Conference on

Recent Trends in Multi-Disciplinary Research

13th-14th November, 2026 | Dubai, UAE

Organized by

جامعة جميرا
JUMEIRA UNIVERSITY

IFERP® Academy
Explore Your Research Journey...

Jumeira University, UAE & IFERP Academy - Dubai Society

ICRTMDR
by IFERP
13-14 November 2026 | Dubai, UAE

9th International Conference on Recent Trends in Multi-Disciplinary Research (ICRTMDR-26)

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IFERP Academy Explore.



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IFERP Academy
Explore Your Research Journey...

جامعة جميرا
JUMEIRA UNIVERSITY

ICRTMDR
by IFERP
13-14 November 2026 | Dubai, UAE



Theme :

Recent Trends in Multidisciplinary Research: Innovation, Collaboration and Global Impact.

Preface

We cordially invite you to attend the 9th International Conference on Recent Trends in Multi-Disciplinary Research (ICRTMDR-2026) on 13th–14th November 2026. The main objective of ICRTMDR-2026 is to provide a platform for researchers, students, academicians as well as industrial professionals from all over the world to present their research results and development activities in relevant fields of Recent Trends in Multi-Disciplinary Research. This conference will provide opportunities for the delegates to exchange new ideas and experience face to face, to establish business or research relationship and to find global partners for future collaboration.

These proceedings collect the up-to-date, comprehensive and worldwide state-of-art knowledge on cutting edge development of academia as well as industries. All accepted papers were subjected to strict peer-reviewing by a panel of expert referees. The papers have been selected for these proceedings because of their quality and the relevance to the conference. We hope these proceedings will not only provide the readers a broad overview of the latest research results but also will provide the readers a valuable summary and reference in these fields.

The conference is supported by many universities, research institutes and colleges. Many professors played an important role in the successful holding of the conference, so we would like to take this opportunity to express our sincere gratitude and highest respects to them. They have worked very hard in reviewing papers and making valuable suggestions for the authors to improve their work. We also would like to express our gratitude to the external reviewers, for providing extra help in there view process, and to the authors for contributing their research result to the conference.

We would like to extend our appreciation to all participants in the conference for their great contribution to the success of ICRTMDR-2026. We would like to thank the keynote and individual speakers and all participating authors for their hard work and time. We also sincerely appreciate the work by the technical program committee and all reviewers, whose contributions made this conference possible. We would like to extend our thanks to all the referees for their constructive comments on all papers; especially, we would like to thank to organizing committee for their hard work.

About ICRTMDR-2026

The 9th International Conference on Recent Trends in Multi-Disciplinary Research (ICRTMDR 2026) will be held in Dubai, United Arab Emirates, a global hub for innovation, collaboration and knowledge exchange. With the theme "Recent Trends in Multidisciplinary Research: Innovation, Collaboration and Global Impact", the conference emphasizes the transformative role of cross-disciplinary research in addressing contemporary challenges and shaping sustainable futures.

This prestigious forum brings together academics, researchers, industry leaders, policymakers and innovators from diverse fields—including science, engineering, technology, management, social sciences and humanities—to share insights, present cutting-edge research and explore collaborative pathways for global impact.

Conference Theme

"Recent Trends in Multidisciplinary Research: Innovation, Collaboration and Global Impact" highlights the growing need to integrate knowledge from diverse disciplines to address complex global challenges. The theme emphasizes how innovation emerges through interdisciplinary approaches and collaborative efforts among researchers, academicians, industry professionals, and policymakers. By fostering cross-disciplinary dialogue and knowledge exchange, the conference aims to bridge the gap between theory and real-world application.

Vision & Purpose

- To **showcase recent trends** in multidisciplinary research across diverse domains.
- To **foster collaboration** between academia, industry and policymakers.
- To **align research outputs with global priorities,** including sustainability, digital transformation and equity.
- To **create actionable knowledge** that supports innovation, policy and practice.

Objective of 9th ICRTMDR 2026

The 9th ICRTMDR 2026 aims to advance multidisciplinary knowledge, foster innovation, and build global collaborations that contribute to sustainable and research-driven development.

- **Advance Multidisciplinary Research:**

  Encourage integration of diverse disciplines to generate innovative solutions addressing complex global challenges.
- **Promote Innovation & Collaboration**

  Showcase recent research trends while fostering strong partnerships between academia, industry, and policymakers.
- **Support Sustainable Development**

  Align research initiatives with the United Nations Sustainable Development Goals (SDGs) for long-term impact.
- **Strengthen Global Networks**

  Build collaborative frameworks that encourage knowledge exchange, international cooperation, and academic mobility.
- **Translate Research into Practice**

  Provide actionable recommendations for institutions, industries, and governments to implement research-driven strategies.

About IFERP

The IFERP Academy is a committed professional organization that advances engineering, science, and technology. IFERP anticipates a global scientific community brought together by digital innovation. This organization puts a great emphasis on promoting research activities, communicating the newest insights, and driving industrial trends.

IFERP has built strong networks throughout Asia, the Middle East, Europe, and countries such as Iraq, Malaysia, Australia, and more. They have incorporated networking, research support, publications, and worked in other scientific areas.

IFERP excels in organizing International Conferences that connect researchers worldwide. It holds important international webinars, publishes journals and publications that are indexed by Web of Science and SCOPUS, and provides thorough research assistance and guidance. Engaging in Youth Empowerment projects and encouraging Industry-Institute Interaction are key components of IFERP's goal. The organization is committed to enabling professionals through faculty advancement, skill development, and persistent research and publication initiatives.

- **Global Community Building:** IFERP exerts a lot of effort in building new communities all over the world. As community organizers, we control the conversations & inculcate passion for innovation amongst diverse groups.
- **Promoting Innovation Schemes:** IFERP has several schemes for students, professionals, researchers & organizations to being distinct innovators across all technology streams & sub disciplines.
- **Publicizing Research Publication:** Publication of research is the crucial aspect of IFERP's activities. IFERP also serves as a support center for early - career researchers aspiring to publish world-class research papers.
- **Our Origin:** Established by the Technoarete Research & Development Association (TRADA), IFERP was meant to serve as an accelerant for technological innovation worldwide.
- **Access To Critical Funding & Resources:** IFERP has dedicated itself to fund for various efficient projects & activities to make it achieve successful outcomes beyond just meeting expectations.
- **Facilitating Multi-Disciplinary Collaborations:** IFERP encourages networking & collaborative partnerships on all fronts to result in a diverse collaborative atmosphere to gain abundance knowledge.

What IFERP Does

IFERP is committed to improving the professional experience by providing a world-class platform to professionals. Their dedication extends to the following activities:

- **Academic Resource Accessibility :** They make academic resources and support available to aspiring scholars in both rural and urban locations.
- **Diverse Educational Program :** They organize a wide range of educational events such as workshops, conferences, webinars, seminars, guest lectures, short-term training programs, and faculty development programs.
- **Drive Innovation:** They work hard to foster curiosity and creativity, and stay up to date on the newest trends and advancements in the dynamic field of Engineering, Science, and Technology.
- **Knowledge Sharing and Collaboration:** They believe in the strength of the exchange of knowledge and actively collaborate with institutions, organizations, and associations to contribute to our shared objective of a better future.
- **Publication & Recognition:** They also provide opportunities for research articles to be published in reputable journals and actively promote and encourage transdisciplinary research activities.

IFERP Mission & Vision

IFERP's Mission: Upskilling the knowledge hub through technological innovation & excellence for the benefit of humanity.

IFERP's Vision: A Digitally equipped robust, dynamic & swift professional community integrating academics & industry for upgraded technical implementation.

IFERP's Value: IFERP values the restoration of high level technological research, learning, collaboration, resource sharing & community-building traditions.

IFERP's Goal: To serve as the foundation for all technological progress and advancement activities around the world.

Managing Director, IFERP



Mr. A. Siddth Kumar Chhajer

Managing Director & Founder, IFERP
Technoarete Group, India

Message:

On behalf of IFERP & the organizing Committee, I express my hearty gratitude to the Participants, Keynote Speakers, Delegates, Reviewers and Researchers.

The goal of the 9th International Conference on Recent Trends in Multi-Disciplinary Research (ICRTMDR-2026) is to provide knowledge enrichment and innovative technical exchange between international researchers or scholars and practitioners from the academia and industries in various fields of academics. This conference creates solutions in different ways and to share innovative ideas in the field of Recent Trends in Multi-Disciplinary Research. ICRTMDR-2026 provides a world class stage to the Researchers, Professionals, Scientists, Academicians, and students to engage in very challenging conversations, assess the current body of research and determine knowledge and capability gaps.

ICRTMDR-2026 will explore the new horizons of innovations from distinguished researchers, scientists and eminent authors in academia and industry working for the advancements in Recent Trends in Multi-Disciplinary Research from all over the world. ICRTMDR-2026 hopes to set the perfect platform for participants to establish careers as successful and globally renowned specialists in various fields of Academics.

Chief Executive Officer, IFERP



Dr. Rudra Bhanu Satpathy

Chief Executive Officer & Founder,
IFERP
Technoarete Group, India

Message:

IFERP is hosting the 9th International Conference on Recent Trends in Multi-Disciplinary Research (ICRTMDR-2026) this year in month of November. The main objective of ICRTMDR-2026 is to grant the amazing opportunity to learn about groundbreaking developments in modern industry, talk through difficult workplace scenarios with peers who experience the same pain points, and experience enormous growth and development as a professional. There will be no shortage of continuous networking opportunities and informational sessions. The sessions serve as an excellent opportunity to soak up information from widely respected experts. Connecting with fellow professionals and sharing the success stories of your firm is an excellent way to build relations and become known as a thought leader.

I express my hearty gratitude to all my Colleagues, Staffs, Professors, Reviewers and Members of organizing committee for their hearty and dedicated support to make this conference successful. I am also thankful to all our delegates for their pain staking effort to make this conference successful.

Welcome Message, Jumeira University



Prof. Dr. Muhamad Saleh Jumaa

Conference Co-Chair
Dean
College of Business
Jumeira University, UAE

Message:

Good morning to all distinguished professors, researchers, academicians, industry experts, research scholars, and participants.

A warm greeting from Jumeira University, the Academic Partner,

It is a great pleasure to be associated as a co-chair with the 9th International Conference on Recent Trends in Multi-Disciplinary Research (ICRTMDR), organized by IFERP, and to extend my warm wishes to all the distinguished speakers, researchers, academicians, and delegates who are joining this international gathering.

At Jumeira University, we recognize that meaningful academic progress comes from bringing together different areas of knowledge and encouraging dialogue beyond traditional disciplinary boundaries. Our association with ICRTMDR as an Academic Partner reflects our enthusiasm for initiatives that create opportunities for intellectual exchange, research advancement, and international academic engagement.

With its theme, "Recent Trends in Multidisciplinary Research: Innovation, Collaboration and Global Impact," the conference highlights the importance of exploring new perspectives and developing collective approaches to contemporary research challenges. It offers an enriching environment for participants to present their work, gain insights from fellow researchers, and discover possibilities for future academic cooperation.

We believe that the exchange of knowledge and experiences among institutions, researchers, and professionals is essential to building a stronger and more connected academic community. Platforms such as ICRTMDR encourage these interactions while opening doors to innovative ideas, cross-disciplinary partnerships, and research initiatives with wider societal relevance.

I would like to acknowledge IFERP for its initiative in bringing together experts and research communities from different parts of the world. My appreciation also goes to the organizing team, scientific committee, reviewers, speakers, and participating authors for their valuable efforts in making this conference a meaningful academic platform.

I encourage every participant to make this gathering an opportunity not only to showcase their research but also to learn from diverse viewpoints, establish new connections, and take forward ideas that can contribute to future developments in their respective fields.

On behalf of Jumeira University, I wish all participants an engaging and successful conference, and hope that the 9th ICRTMDR marks the beginning of many fruitful academic collaborations.

Invited Keynote Speaker



Dr. Mohammad Saad El dine Knio

Assistant Professor
Department of Economics
Lebanese International University (LIU)
Lebanon

Biography:

Dr. Mohammad Saad El Dine Knio is an Assistant Professor of Economics at the Lebanese International University, where he leads ACBSP accreditation for the School of Business. He holds a PhD in Economics from Cardiff University, an MBA/MPhil from the University of Wales Institute Cardiff, and a certificate in Circular Economy and Sustainability Strategies from the University of Cambridge.

He has held several academic and leadership positions, including Assistant Dean and School Research Leader at LIU, Assistant Professor of Economics and Head of Sustainability at City University Ajman, and consultant for Ajman Chamber of Commerce and Industry. He has contributed to accreditation, sustainability initiatives, research supervision, and international academic projects, including Erasmus/TNE MARE and UNIMED-related initiatives.

His teaching and research interests include economics, stock markets, macroeconomic policy, sustainability, circular economy, and business research methods. Dr. Knio has published journal articles and book chapters and has participated in international conferences and academic events in Lebanon, the UAE, the UK, Italy, Turkey, and the United States.

Invited Keynote Speaker



Mr. Mridumesh Kumar Rai

Jumeirah University
United Arab Emirates

Biography:

Mridumesh Kumar Rai is a distinguished retail and business leader with over two decades of experience in fashion, footwear, brand management, and strategic retail operations across international markets. He is associated with the Alshaya Group and has held several senior leadership positions, driving business growth, organizational transformation, and people development initiatives. An alumnus of the Indian Institute of Management Calcutta, he is widely recognized for his expertise in retail strategy, merchandising, customer experience, and leadership development. Mridumesh is also an active mentor, speaker, and thought leader who frequently shares insights on innovation, teamwork, and sustainable business practices. His contributions to the retail industry have earned him several recognitions, including the CEO of the Year award in the footwear sector and invitations to serve on academic boards and industry forums.

Invited Keynote Speaker



Mr. Maher Nasri

SME Business Consultant
Dixie Business Consulting
United Arab Emirates

Biography:

A seasoned financial leader with over 26 years of international experience, he is the Founder of Dixie Business Consulting, where he supports startups and SMEs in achieving sustainable growth, securing funding, and strengthening financial stability. His expertise spans Fractional CFO services, financial modelling, business valuations, fundraising, FP&A, capital structuring, and strategic business advisory. Having worked with clients across the USA, UAE, KSA, and Europe, he brings extensive hands-on financial expertise and board-level advisory experience, helping businesses make informed financial decisions, attract investments, and drive long-term growth.

Keynote Speaker



Dr. Abdulbasit A. Darem

Associate Professor
Center for Scientific Research and Entrepreneurship
Northern Border University (NBU)
Saudi Arabia

Biography:

Dr. Abdulbasit A. Darem (World's Top 2% Scientists 2025), an Associate Professor of Cybersecurity and AI at the Center for Scientific Research and Entrepreneurship, Northern Border University (NBU) in Saudi Arabia, is a prominent researcher with extensive contributions to the fields of cybersecurity. Holding a Ph.D. in Computer Science from Mysore University, India, Dr. Darem has led numerous research initiatives, including serving as the Principal Investigator (PI) for multiple funded projects (around 81+ research projects with over US$765k), such as those addressing AI, cybersecurity threats, ransomware detection, and privacy in social networks.

He has published over 118+ articles in international referred journals with high impact factors and presented several conference papers, tackling critical issues using AI (machine learning and Deep learning). He also got one patent from Japan and three are under consideration. As the Chair of the Cybersecurity Research Group (RG-NBU-2022-1724) and RDO-1385 project, Dr. Darem actively conducts innovative research and collaborates with international teams to address emerging challenges in cybersecurity. His work has earned him recognition and multiple awards for academic excellence, highlighting his dedication to advancing cybersecurity knowledge and solutions through impactful research.

Keynote Speaker



Dr. Raja Sarath Kumar Boddu

Professor & Head
Department of Artificial Intelligence and Machine Learning
Raghu Engineering College, India

Biography:

Prof. Raja Sarath Kumar Boddu, working as a professor and Head of the Department of Artificial Intelligence and Machine Learning at Raghu Engineering College, Visakhapatnam, with 25 years of experience in engineering education, has been ratified in the cadre of 'Principal' by JNT University, Kakinada. Dr. Boddu has authored five books, edited two books and 23 book chapters on Computer Science and published 87 Research papers. Dr. Boddu has invented 7 Computer Science patents. Dr. Boddu did a postgraduate diploma in Business Administration from the Indian Institute of Management, Visakhapatnam, and a PhD, Master's and bachelor's from Andhra University in Visakhapatnam. Dr. Boddu did a post-doc at the University of South Florida, USA. Dr. Boddu has supervised 17 PG dissertations and 10 groups of UG dissertations so far. Dr. Boddu has travelled to 4 countries for research. As a part of it, Dr. Boddu has been invited to the Engineering Leaders Conference on Engineering Education held in Doha, 9-11 November 2014, organized by Texas A&M University at Qatar. Dr. Boddu is a Fellow of IEI(India), a Senior Member of IEEE and ACM, and a Life Member of IETE, ISCA, and CSI. So far, I have reviewed over 100 research papers and am still a reviewer for Springer's Journal of Supercomputing, IEI Springer, Hindawi, Tech Science Press, Information Sciences, and IEEE Access journals. Further, Dr. Boddu is an Editor, Researcher, Programmer, Keynote Speaker, Innovator, Mentor, Patent Holder, Administrator, and recipient of the ISCA Best Research Paper and Vignan Prathibha Puraskar, as well as several other meritorious awards.

Plenary Speaker



Dr. Ratod Vinod Kumar

University College of Engineering
Osmania University
Hyderabad, India

Biography:

Dr. Ratod Vinod Kumar is a distinguished academician, educator, researcher, author, and Civil Engineering professional specializing in Structural Engineering, Concrete Technology, sustainable construction materials, and innovative infrastructure development. He holds a B.Tech in Civil Engineering, an M.Tech in Structural Engineering, and a Ph.D. in Civil/Structural Engineering from the University College of Engineering, Osmania University, Hyderabad. His doctoral research, titled "Manufacture of HDPE Plasto-Sand Aggregate Concrete and Experimental Study on Strength, Durability and Microstructure," focuses on the innovative utilization of recycled High-Density Polyethylene (HDPE) plastic and sand to manufacture plasto-sand aggregates, offering a promising sustainable alternative to conventional construction aggregates. Through this research, he has developed a novel HDPE plasto-sand aggregate aimed at enhancing construction practices by promoting resource efficiency, reducing plastic waste, and supporting environmentally responsible infrastructure development. His research interests include recycled aggregate concrete, geopolymer concrete, concrete strength and durability, microstructural characterization, and low-carbon construction technologies. He has contributed to the field through research publications in reputed national and international journals and conference proceedings, including publications associated with Elsevier, IOP, and ASCE. As a dedicated educator and author, he has written several books to support students, researchers, and engineering professionals by making technical knowledge accessible, practical, and application-oriented. His teaching approach emphasizes bridging the gap between theoretical concepts, laboratory experimentation, standard testing procedures, and real-world engineering applications. His vision is to advance sustainable construction through scientific innovation, research-driven solutions, quality education, and knowledge sharing, inspiring future engineers to develop stronger, more durable, resource-efficient, and environmentally sustainable infrastructure.

Session Speaker



Dr. Paul Innes

Professor
Department of English Literature and Language
United Arab Emirates University
Abu Dhabi, UAE

Biography:

Paul Innes graduated from the Universities of Glasgow and Stirling and is now Professor of English Literature and Language at the United Arab Emirates University at Al Ain in Abu Dhabi. He has previously worked at the Universities of Warsaw, Edinburgh, Strathclyde, Glasgow and Gloucestershire.

He has published widely on Shakespeare and Critical Theory, including Shakespeare and the English Renaissance Sonnet: Verses of Feigning Love (Macmillan and St Martin's Press 1997); Shakespeare: The Barriers Removed (Studymates Textbooks 2005); Class and Society in Shakespeare: A Dictionary (Continuum 2007); Epic (Routledge 2013); and Shakespeare's Roman Plays (Palgrave Macmillan 2015).

Session Speaker



Dr. Ferdinand Mwaka Chipindi

Associate Professor
Department of Educational Administration and Policy Studies
University of Zambia, Zambia

Biography:

Prof. Ferdinand Mwaka Chipindi is a respected academic leader, postcolonial critic, and defiant scholar with over 18 years of service in higher education. Currently an Associate Professor in the Department of Educational Administration and Policy Studies at the University of Zambia, he is known for challenging inherited academic orthodoxies and advocating for epistemic disobedience in both research and teaching. As Head of Department (2019–2023), Prof. Chipindi led a departmental renaissance — increasing doctoral enrolment by 60%, facilitating 12 academic promotions, and founding Zambia's first peer-reviewed journal in educational management (ZJEMAL). His leadership as Acting Dean during the post-COVID period brought strategic clarity and resilience to academic recovery. Prof. Chipindi earned his PhD from the University of Minnesota – Twin Cities (USA), specialising in Organizational Leadership, Policy, and Development, with minors in Development Studies and Social Change. His scholarship consistently interrogates the legacies of colonial knowledge systems, and his teaching centres African intellectual traditions, radical pedagogy, and institutional critique. He has published widely, consulted on national education policy, and mentored scores of early-career academics. His Teaching Methodology course has become a site of intellectual insurgency, empowering lecturers to decolonise their practice. Recognised for his integrity, critical voice, and visionary leadership, Prof. Chipindi enters this election offering principled, full-time, and fearless unionism. His campaign is not just about reform — it is about academic liberation.

Session Speaker



Dr. Aliyarbayova Aygun Aliyar

Assistant Professor
Department Cytology, Embryology and Histology
Azerbaijan Medical University
Azerbaijan

Biography:

Aliyarbayova Aygun Aliyar has completed hers PhD at the age of 45 years from Azerbaijan Medical University and postdoctoral studies since 2022 from same university on topic "Interaction of Macrophage migration inhibitory factor and lung structural elements". She is the currently works as Assistant Professor at the Department Cytology, Embryology and Histology of the Azerbaijan Medical University. She is members of Azerbaijan Anatomy, Embryology and Histology Society. She has published more than 130 papers in reputed journals and conference.

Session Speaker



Dr. Osama Al Mahdi

Associate Professor
University of Bahrain
Bahrain

Biography:

Dr. Osama Al Mahdi is an Associate Professor at University of Bahrain, with a 30-year career dedicated to education. His research interests center on teacher professional development and educational leadership. He holds a PhD in Education from the University of Bristol (UK) and am a Fellow of the Higher Education Academy (UK). He has a strong publication record in international journals and conference proceedings, as well as contributions to edited books and book chapters. His collaborative work with researchers and institutions worldwide has enriched my research and teaching.

Session Speaker



Dr. Sunny Vig

Associate Professor
Chandigarh University
India

Biography:

Dr. Sunny Vig is an Associate Professor with expertise in wind optimization, dedicated to advancing research and innovation in sustainable energy systems. With a strong academic and research background, he has authored over 20 publications indexed in Scopus, contributing significantly to the fields of renewable energy and environmental Engineering. Dr. Vig is also deeply engaged in the development of sustainability-focused academic programs. His presentation,"Sustainable Education and Curriculum Design", will explore practical frameworks for integrating environmental sustainability into higher education. He will share insights on how curriculum development can align with global energy goals, empowering the next generation of engineers and educators.

Session Speaker



Dr. Syerina Azlin Md Nasir

Associate Professor
Faculty of Computer and Mathematical Sciences
Universiti Teknologi MARA (UiTM)
Malaysia

Biography:

Dr. Syerina Azlin Md Nasir holds a Ph.D. in Information Technology from Universiti Teknologi MARA (UiTM), Malaysia, and an undergraduate degree from the University of Salford, United Kingdom. She is an Associate Professor at the Faculty of Computer and Mathematical Sciences, UiTM, Malaysia, and currently a Visiting Professor at Seoul National University of Science and Technology (SeoulTech), Republic of Korea. With over 20 years of academic experience, her research focuses on artificial intelligence, text mining, machine learning, data analytics, and computational intelligence. She has led and collaborated on numerous research projects involving advanced text representation, fuzzy clustering, deep learning, and large-scale heterogeneous data analysis. Her recent work explores multimodal deep learning, energy-efficient AI, and real-time analytics for social media and digital platforms to develop data-driven solutions that support sustainable development, informed decision-making, and societal well-being. Dr. Syerina has published extensively in Web of Science (WoS) and Scopus-indexed journals and actively contributes to international research collaborations, conferences, and professional organizations, including IEEE and the Malaysia Association for Information Systems (MyAIS). She is committed to advancing knowledge and fostering impactful interdisciplinary research that bridges academia, industry, and society.

Session Chairs



Dr. Afseer Majeed

Assistant Professor
College of Business
Jumeira University
Dubai, UAE



Dr. Ala Ahmed

Managing Director
Machinesens IoT
Dubai, UAE



Dr. Bharath Pahadiya

Associate Professor
Department of Computer Science and Engineering
India



Dr. Neha Gupta
Director
SCSIT
Symbiosis University of Applied Sciences
India

Moderators



Dr. Vidhyalavanya Ramachandran
Assistant Professor
College of Business
Jumeira University
Dubai, UAE



Dr. Tajwar Hussaini
Assistant Professor
College of Business
Jumeira University
Dubai, UAE

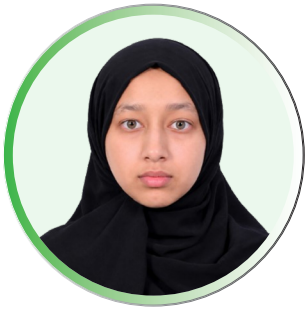




Dr. Rohini Kale

Assistant Professor
NITTTR Bhopal
India

Volunteer





Ruqaya Masum

Jumeira University
Dubai, UAE

Panel Discussion Moderator



Prof. Dr. Muhamad Saleh Jumaa

Conference Co-Chair
Dean
College of Business
Jumeira University, UAE

Panel Speakers



Dr. Meraj Naeem

Director of Excellence and Compliance
Jumeira University, Dubai, UAE



Mr. Maher Nasri

SME Business Consultant
Dixie Business Consulting, UAE



Dr. Alaa Ahmad

Managing Director
MachineSens IoT, UAE



Dr. Mohammad Fteiha, PFHEA

Director of Al Ain Campus
Abu Dhabi University
Director, Center for Faculty Development and LI, UAE



Mr. Abdelrahman Nadim

PR Manager
KISWA, UAE



Dr. Mirna Yassine Barraj

Cultural Diplomacy and Goodwill Ambassador for the World Federation of United Nations Friends (WFUNF, United Nations), UAE

Conference Convenor



Dr. G. P. Ramesh

Conference Convenor
India

Biography:

Dr. G. P. Ramesh is a distinguished academician, visionary technologist and ambitious researcher with over 26 years of multifaceted experience spanning higher education, advanced research and industry leadership. His career reflects a seamless integration of academic excellence and technological innovation, positioning him as a transformative force in engineering education and applied research.

A dynamic leader and passionate educator, he has served as Professor and Head of Electronics and Communication Engineering at prestigious institutions across India and abroad. He has mentored undergraduate, postgraduate and doctoral scholars, successfully guiding Twenty-Two Ph.D. candidates and nurturing a culture of inquiry and excellence.

His academic expertise encompasses artificial intelligence, machine learning, embedded systems, VLSI design and antenna technologies. With more than 125 publications in Scopus-indexed journals, his scholarly influence is evidenced by an H-index of 32 and an i10-index of 70, marking him as a prominent contributor to global research discourse.

He has also organized Twelve International and Six National conferences, publishing proceedings with Springer and ensuring global visibility through Scopus and Web of Science. A pioneer in Outcome-Based Education and a strategic advisor for NAAC, NBA and Autonomous frameworks, Dr. G. P. Ramesh continues to shape future-ready engineers and scalable, tech-driven solutions for India and beyond.

Committee Members

Organizing Committee Members

Conference Chair

Prof. Saud Aldajah

Dean
Faculty of Applied Studies
Sharjah Maritime Academy (SMA), UAE

Conference Co-Chair

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Professor
Department of Physical Chemistry
United Arab Emirates University, UAE

Prof. Dr. Muhamad Saleh Jumaa

Dean
College of Business
Jumeira University, UAE

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Coordinator
Master of Arts in Artificial Intelligence in Education
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College of Identity and Security Studies
Emirates Academy for Identity and Citizenship Dubai Branch, UAE

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PathPilot: An AI-Powered Career Recommendation and Resume Intelligence System for Engineering Students

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Abstract

Choosing the career path and making a good resume is something that all Undergraduate Computer Science and Engineering students have to deal with. The current resume checkers give advice and do not take into account a students background, skills or goals. Career counselling services offer fixed and not advice. This paper presents PathPilot. A web-based tool that helps with career guidance and resume analysis. It uses chat-based career counselling and resume review to solve these problems and offer a personal service. The tool was built using a Flask backend, an SQLite database, a Jinja2/JavaScript frontend and the Gemini large language model. Unlike resume checkers PathPilot creates a context based on the students profile and skills including skills and knowledge projects, certifications and career goals. This context is then combined with the resume text. Given to the large language model. The model gives back a JSON object that has a score ATS score, resume quality score, target role score, analysis of skills gaps, keyword coverage before and after suggestions to keep the facts and get the right format and recommendations for roles and companies based on the career knowledge graph. The tool clearly shows the difference between skills the student didn't mention and skills the student doesn't have. It also avoids making up any data, achievements or certifications. This paper explains why PathPilot was created its design, database structure resume processing, design and how it was built. It talks about the benefits compared to resume checkers and gives a general evaluation of the system. More studies, with users are needed for data.

Keywords

Career guidance system, resume analysis, applicant tracking system, skill-gap analysis, generative AI, Flask, natural language processing, student profiling.

The Impact of Flexible Work Arrangements on Telecom Customer Service Performance: A Theoretical Framework

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Abstract

This study investigates the impact of flexible work arrangements (FWA) on employee productivity, job satisfaction, retention, and turnover intention within telecom customer service roles. Using a quantitative research design, data were collected from 120 employees and analysed through correlation and regression tests. Results show that FWA significantly improves productivity, satisfaction, and retention, but has no statistically significant effect on turnover intention. The findings are interpreted through Self-Determination Theory (SDT) and Work-Life Balance Theory, highlighting how autonomy and reduced work-life conflict contribute to positive employee outcomes. The study fills a gap by applying these theories to a high-structure, service-driven sector often excluded from flexibility research. Practical recommendations are proposed for HR managers to redesign flexibility policies, integrate them into retention strategies, and monitor their effectiveness. The research offers both theoretical and applied contributions, demonstrating that even limited, structured flexibility can produce measurable benefits in rigid operational settings like telecom customer service.

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The Rise of AI Driven Advertising: Opportunities and Ethical Challenges

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Abstract

The swift advancement of Artificial Intelligence (AI) has substantially transformed the advertising landscape, enabling novel levels of personalization, predictive analytics, and algorithmic decision-making. AI-driven advertising capitalizes on large-scale data processing and machine learning algorithms to deliver intended content, maximise campaign ROI like tracking key data, enhance audience targets, testing ad creatives regularly, and optimise customer engagement. While these novelties provide significant opportunities for businesses to improve efficiency and consumer applicability, they also raise critical ethical concerns. Issues such as data privacy infringement, algorithmic bias, consumer manipulation, and lack of transparency challenge the ethical boundaries of digital marketing practices. Moreover, the increasing reliance on AI systems has intensified concerns regarding accountability, fairness, and consumer autonomy. This study explores the dual nature of AI-driven advertising by critically examining its opportunities and ethical implications. It highlights the need for responsible AI frameworks, regulatory oversight, and ethical governance to balance innovation with societal values. The paper aims to provide a comprehensive understanding of how AI can be harnessed responsibly in advertising while safeguarding consumer trust and promoting sustainable digital ecosystems.

Keywords

Artificial Intelligence, Digital Advertising, Ethical Challenges, Consumer Privacy, Algorithmic Bias, Personalized Marketing.

A Multi-Mechanism Curriculum Reform Framework for Workforce Readiness in Higher Education Sector

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Abstract

The pressure on Higher Education Institutions is increasing to ensure that their programmes remain relevant to new and emerging job markets, which change at a faster rate. Partnerships between industry are considered useful, but most are only occasional guest lectures, short-term advice or advice on internships; useful in their own right but insufficient to have curricula that are both responsive and concerted on their own, unless combined together.

Based on a case study in a Jumeira University in Dubai, the paper follows the approach of co-development (joint design of educational objectives and content by industry partners) and co-delivery (co-teaching by industry practitioners together with faculty) for the reform effort. It then explores how this foundation can be reinforced by four complementary mechanisms: co-assessment, in which industry partners validate the capstone and project evaluation against industry standards, as credit-bearing alternation between the classroom and workplace rather than internships, stackable micro-credentials that can be offered in various configurations to earn credit that can be applied to the program at different points, and systematic alumni-employer feedback loops providing a way to feed graduate performance back into the program's annual cycle of curriculum revision.

The paper proposes that Jumeira University use this multi-mechanism framework of work but also suggests practical recommendations for implementing it beyond isolated efforts at engaging industry toward systemic, continuously adaptable curriculum design. It explores the concept of curriculum reform and its implications for co-developing and co-delivering a curriculum at the intersection of higher education and industry, raising the workforce to meet industry needs and supporting student success via the design and provision of micro-credentials.

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Cross-Border CBDC Clearing Engine

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Abstract

The project presents a research-oriented fintech system designed to simulate how multiple countries can settle cross-border payments using Central Bank Digital Currencies (CBDCs). The system addresses major limitations of current international payment systems including slow settlement times, multiple intermediaries, high transaction costs, foreign exchange (FX) risk, liquidity inefficiencies, and fragmented regulations. A graph-based digital clearing engine is proposed that selects optimal settlement routes between CBDCs while considering cost, liquidity, FX risk, latency, and compliance requirements. Beyond transaction routing, the platform functions as a policy simulation environment where optimization priorities and stress conditions can be modified interactively to study the behavior of cross-border CBDC settlement networks under varying financial scenarios. The final system acts as a financial infrastructure simulation platform for policymakers, central banks, and financial institutions. The architecture includes eight integrated modules spanning network modeling, route optimization, risk intelligence, liquidity management, compliance validation, settlement simulation, stress testing, and dashboard visualization. The system is implemented in Python using Streamlit, Plotly, NetworkX, Pandas, and NumPy.

Keywords

Central Bank Digital Currency, CBDC, cross border payments, digital clearing engine, graph optimization, foreign exchange risk, liquidity management, settlement simulation, regulatory compliance, stress testing, policy simulation.

Integrating Cybersecurity into Business Strategy: An Empirical Study of Governance, Risk Management, Technology, Culture, Compliance and Organizational Resilience

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Abstract

Cybersecurity has evolved from a predominantly technical concern into a strategic organizational priority as organizations increasingly depend on digital technologies and interconnected information systems. This study investigates the integration of cybersecurity into business strategy across six dimensions: governance alignment, risk management, technology and operations, culture and awareness, compliance, and organizational resilience.

A structured questionnaire comprising 23 questions was administered to organizational respondents, generating **53 responses** from participants representing different industries, organizational roles, and organization sizes. The quantitative component included 18 Likert-scale items covering the six dimensions, while two open-ended questions examined major challenges and recommended improvements.

Data were analyzed using PSPP through frequency analysis, descriptive statistics, and reliability assessment. The results indicate a **generally positive level of cybersecurity integration**, with construct mean scores ranging from **3.58 to 3.75 on a five-point Likert scale**. Technology and Operations recorded the highest mean score **(M = 3.75, SD = 0.79)**, followed by Organizational Resilience **(M = 3.73, SD = 0.81)** and Governance Alignment **(M = 3.70, SD = 0.82)**.

Culture and Awareness recorded the lowest mean **(M = 3.58, SD = 0.88)**, indicating an area with potential for improvement. The illustrative reliability results produced Cronbach's Alpha values ranging from **0.76 to 0.83**, indicating acceptable internal consistency.

The findings highlight the importance of integrating cybersecurity into governance, risk management, organizational culture, compliance, and resilience planning.

Keywords

Cybersecurity, Business Strategy, Information Security Governance, Risk Management, Cyber Resilience, Compliance, Security Culture, Organizational Resilience.

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A Human-Centric Multimodal Machine Learning Framework for Predicting Near-Misses via Physiological Fatigue and Real-Time Environmental Stress Indicators

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Abstract

Safety monitoring in the workplace typically considers heat, noise, and fatigue as individual issues with their own standard and their own monitoring instrument, which are shared amongst workers. This paper introduces a model called the Human Safety Risk Index (HSRI), which is a comprehensive score (0–100) that combines physiological, environmental, and behavioral indicators. We present a mapping of three public datasets, WESAD, SWELL-KW, and a PhysioNet wearable-device collection, to a common schema, and three interpretable indices: Thermal Strain, Acoustic Strain, and Fatigue Strain. These are each HRV (resilience) moderated (RMSSD). An XGBoost regressor (tuned using Optuna) makes predictions using these indices and the raw features. Subject-aware GroupKFold cross validation ensures that the data of each participant is not included in both training and test fold. Out-of-fold results are modest: MAE = 5.07, RMSE = 6.26 and R^2 = 0.095. The strain is characterized by a real but weak linear signal and most of the variance is not accounted for. We talk about what we believe may be going on instead of stating that we're ready for our model to be used. One of the most salient features of the framework is its transparent and auditable feature pipeline, in which each score is assigned to a dominant strain. A Gradio interface and an automated PDF report make that attribution into targeted recommendations to safety officers. Baselining is individualized, more detailed occupational sensor data, and prospective field validation are next steps.

Keywords

Occupational safety, wearable sensors, multi-modal machine learning, heart rate variability, decision support, risk assessment, XGBoost, stress monitoring.

Responsible Growth and Sustainable Enterprises

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Abstract

Contemporary enterprises face mounting pressure to move beyond traditional profit-maximization models and align their operations with global sustainability goals. Balancing economic expansion with social equity and environmental stewardship has become fundamentally critical and imperative for long-term viability. This research looks into how organizations integrate responsible business practices into their core management strategies to achieve sustainable growth without undermining the environment. The present researcher adopts doctrinal methodology and points out that the actions of enterprises constantly pitch them against the ecosystem. The embedding of ethical, legal and institutional frameworks into daily operations of these enterprises do not hinder economic performance; rather, it actively mitigates operational risks, improves brand reputation, and ultimately drives innovative value creation. Recommendations of this research suggest, among many, that responsible growth requires a balance across economy, social, and environmental ecosystem.

Keywords

Responsible Growth, Sustainable Enterprises, Eco-System, Environmental Impact.

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When There Will Be No Marketer: AI Sales and the Future of Marketing

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Abstract

AI is revolutionizing the sales and marketing landscape by streamlining customer profiling, qualifying leads, messaging, content creation, and personalizing service. However, in the field of bioanalytical and diagnostic services, such a shift needs to be managed and requires a special approach to governing marketing communication, as it is connected to science and scientific credibility, analytical reliability, regulatory sensitivity, and the client's trust. This article explores the potential impact of AI sales automation on the future of the marketer in a bioanalytical/diagnostic service context. The article adopts a conceptual and technical review approach, compiling literature related to AI marketing, service automation, AI in healthcare, trust and transparency in AI, and responsible governance of technology. The discussion highlights how AI can benefit client identification, handling technical inquiries, matching services, supporting proposals, and ensuring consistency in communication. AI can also pose risks in cases of exaggerated over-claims of assay performance, diagnostic relevance, assay validation status, turnaround time, and/or regulatory compliance. The future marketer doesn't go away but is more technically literate and governance focused, the article says. The role will evolve from 'persuasion' sales and marketing to AI-driven scientific communication and evidence curation, compliance-focused messaging, and trust management. The piece suggests a model of human-AI collaboration, where AI speeds up and standardizes responses, and humans retain the power to maintain ethical responsibility and accountability. The study makes a valuable contribution to the applied field of bioanalysis by placing AI-driven marketing as a socio-technical endeavor that must be guided, transparent and responsibly commercialized by science.

Keywords

Artificial intelligence, bioanalytical services, diagnostic marketing, sales automation, trust governance.

Designing Leadership Education for Disruptive Change, Complex Risk, and Resilience: A Pedagogical Framework Based on Adaptive Leadership

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Abstract

This conference-defined working paper (abstract of work in progress) explores how curriculum, instruction, and educational settings can be intentionally designed to prepare professionals for disruptive change, complex risk, disaster, and resilience. Drawing on the adaptive leadership framework (theory) developed by Ronald Heifetz (1994, 2009) the study argues that leadership education can and should build on established competency based approaches emphasizing strategic skill, courage, and character (Lominger International, n.d.) while extending beyond technical expertise to cultivate the capacity to diagnose and mobilize responses to adaptive challenges. The paper examines the six core adaptive leadership practices and proposes a pedagogical framework for helping learners internalize these capacities through active and inquiry-based instructional approaches, including case studies, simulations, role plays, action learning projects, peer coaching, and structured reflection. The conceptual argument for linking adaptive leadership theory to curriculum and pedagogical design across interdisciplinary leadership programs will be refined through conference feedback to identify cogent applications for leadership education that prepares professionals to address complex social and organizational challenges in an increasingly uncertain world.

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Failure Simulator: A Hybrid Rule-Based and LLM Decision Support Framework for Entrepreneurial Risk Assessment and Strategic Stress Testing

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Abstract

Startup failure remains a significant challenge for entrepreneurs and can result from factors including inadequate market analysis, weak financial planning, operational problems, ineffective management, and strong competition. Existing approaches to entrepreneurial risk assessment, including consulting, market research, and standalone analytical tools, often focus on specific areas rather than providing a complete view of a startup's risks. This paper presents Failure Simulator, a hybrid rule-based and large-language-model (LLM) decision-support system for proactive startup risk assessment and strategic stress testing. The framework scores five risk dimensions—financial, marketing, competition, operational, and scalability—using fixed formulas, and combines them into a weighted overall risk score and two derived indices. An LLM writes the report text around the calculated numbers but does not compute or change any score: the code calculates, and the LLM explains. The interface presents twelve analytical functions, which this paper classifies by how each one is actually produced (calculated, LLM-written, or a combination). Strategic stress testing is performed by changing one input and re-running the simulation, so every change in the output can be traced to the changed input. A working prototype is presented together with a structured evaluation approach based on baseline and stress-test scenarios using one documented venture profile: repeated runs produced identical scores, and a 25% revenue reduction moved the affected risk dimensions in the expected direction while leaving unrelated dimensions unchanged. The paper describes the system architecture, analytical workflow, methodology, and current prototype-level findings while clearly separating implemented interface behavior from proposed extensions such as external data integration and evidence verification. Future work will focus on empirical validation using real-world startup data, expert assessments, and broader user studies.

Keywords

Artificial intelligence, entrepreneurial decision support, startup risk, large language models, stress testing, risk assessment, decision-support systems, entrepreneurship.

Optimisation and Microstructural Evaluation of Eggshell Powder in PPC Concrete

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Abstract

The growing demand of construction materials has led to increased interest in utilizing waste as partial replacements for conventional cement. This research examines the microstructural and mechanical behavior of Portland Pozzolana Cement (PPC) concrete partially substituted with eggshell powder (ESP) at 0 to 12% by weight of cement. The study systematically evaluates the effects of ESP on compressive, split tensile, and flexural strengths, as well as on density, water absorption, ultrasonic pulse velocity (UPV) and scanning electron microscope (SEM) analysis. Results showed that the compressive strength increased from 25.0 MPa (control) to a maximum of 28.2 MPa at 2.5% ESP, representing a 12.8% improvement. Split tensile strength also improved from 2.50 MPa to 2.74 MPa, while flexural strength rose from 4.0 MPa to 4.33 MPa at the same optimum level. The bulk density increased slightly from 2400 kg/m³ to 2431 kg/m³, indicating better packing and hydration efficiency. Water absorption decreased from 5.0% to 4.5%, suggesting a denser pore structure. UPV values reached 4.55 km/s, reflecting excellent internal uniformity and concrete quality. Scanning Electron Microscope (SEM) analysis at the optimum ESP dosage revealed compact and well-hydrated Calcium Silicate Hydrate (C-S-H) formations with reduced porosity, confirming the microstructural refinement of ESP-modified concrete. The overall performance index identified 2.5% ESP as the optimum replacement, demonstrating enhanced mechanical strength, durability, and sustainability potential for PPC concrete.

Keywords

Egg Shell Powder, Performance Index, Strength Analysis, Sustainable Concrete, PPC Concrete.

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Interdisciplinary School Well-Being: Integrating Health, Education, Psychology, and Community Action for Better Learning

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Abstract

Health and well-being in educational settings are shaped by interacting physical, psychological, social, environmental, and educational conditions. Yet school improvement is often organized in separate programs: health promotion, counseling, physical activity, nutrition, safeguarding, attendance, and curriculum are evaluated in parallel. This paper examines how interdisciplinary work can integrate these domains into a school well-being system. A review of 18 studies, reviews, surveys, and policy reports published between 2023 and 2026 was conducted. Sources were coded by domain, mechanism, implementation, equity, and outcome. The synthesis indicates five findings. First, student and teacher well-being are mutually dependent: emotional climate, workload, belonging, and support influence learning and health. Second, whole-school approaches are more plausible than isolated programs because they align curriculum, environment, services, family engagement, and governance. Third, interdisciplinary collaboration improves identification and referral, but role ambiguity and fragmented data can limit implementation. Fourth, health-promoting activity, nutrition, mental-health support, and social connection are most effective when embedded in routines rather than delivered as add-on campaigns. Fifth, equity is an outcome and a design constraint because schools differ in resources, culture, disability access, safety, and community trust. The paper proposes a framework linking school needs to interdisciplinary inputs, integrated actions, and learning outcomes. It also presents a mixed-method methodology, a staged implementation protocol, and an evaluation matrix covering health, climate, participation, attendance, and engagement. Interdisciplinary school well-being should be treated as educational infrastructure: a responsibility connecting public health, pedagogy, psychology, families, and community services while protecting student voice, teacher workload, privacy, and health equity.

Keywords

School health, well-being, interdisciplinary education, mental health, physical activity, nutrition, belonging, health equity.

A Data-Driven Framework: For Improving Efficiency, Safety and Service Quality in School Transport Management

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Abstract

School transportation is an important operational function within educational institutions, involving the coordination of students, parents, drivers, caretakers, transport providers and school management. A reliable and safe transport service supports timely student attendance, operational efficiency and parent confidence. In practice, schools generate substantial amounts of transport-related data through attendance records, route information, vehicle inspections, incident registers, violation records, complaints, delay records and transport-provider reports. However, these data are frequently maintained across different records and systems, limiting their effective use for systematic performance monitoring and decision making. The purpose of this study is to propose a data-driven framework for improving efficiency, safety, service quality and transport-provider performance in school transportation management. The study adopts an applied research approach combining analysis of operational transport records, a structured questionnaire for relevant transport stakeholders and practical insights from school transport management. Key performance indicators will be identified and organized into four dimensions: operational efficiency, safety performance, service quality and transport-provider performance. The proposed framework integrates data from multiple operational sources and uses Power BI as a business intelligence tool to transform raw transport data into visual indicators, trends and management information. The expected results include the identification of recurring operational issues, performance trends, areas requiring corrective action and indicators that can support early identification of potential transport concerns. The framework is also intended to facilitate comparison of performance over time and monitoring improvement measures after corrective actions are implemented. The study concludes that systematically integrating existing transport data can provide school management with a more structured basis for monitoring transport performance and supporting timely, evidence-based decisions. Rather than relying primarily on individual complaints or isolated incidents, the proposed framework encourages a continuous monitoring approach in which operational information is converted into actionable management insights. The framework will be further validated using actual transport records and stakeholder survey responses to assess its practical applicability and relevance to school transportation management.

Keywords

School Transport Management, Data-Driven Management, Performance Indicators, Student Safety, Service Quality.

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Digital Technology Importance and Job Growth Aspirations among Early-Stage Entrepreneurs

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Abstract

Digital technologies can expand entrepreneurial opportunities, but their economic relevance depends on how entrepreneurs evaluate them and on the conditions in which new ventures operate. This study examines the association between perceived digital technology importance and job growth aspirations using national data from the 2024 Global Entrepreneurship Monitor Adult Population Survey and National Expert Survey. Forty-nine economies provide complete observations for the main analysis. Basic digital importance combines email communication, email marketing, social media and informational websites; advanced digital importance combines e-commerce, data analytics and cloud computing. Separate ordinary least squares regressions relate these measures to the share of early-stage entrepreneurs expecting at least ten additional jobs and more than fifty percent employment growth within five years, controlling for national entrepreneurial context and the early-stage entrepreneurship rate. Advanced digital importance is positively associated with job growth aspirations, with a standardized coefficient of 0.547 and an adjusted explained variance of 0.502. The association remains statistically significant with heteroskedasticity-robust standard errors and when influential economies are excluded. National entrepreneurial context also shows a positive conditional association. Exploratory regressions examining a broader sequence from ecosystem conditions through digital importance and national entrepreneurial impact to gross domestic product growth do not support the complete pathway. The findings link perceived digital relevance to growth-oriented entrepreneurship at the economy level, while distinguishing technology importance from actual adoption and employment expectations from realized job creation. The cross-sectional design supports associational conclusions and indicates the need for longitudinal evidence on technology use and subsequent business performance.

Keywords

Digital entrepreneurship, Entrepreneurial ecosystems, Digital technology importance, Job growth aspirations, Global Entrepreneurship Monitor, National data.

Dynamic CPU Utilization Management in Distributed Computing Environments

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Abstract

Dynamic CPU utilization management is an important aspect of distributed computing environments, where multiple nodes execute workloads with varying computational requirements. Differences in processing demand, task complexity, and execution patterns can result in uneven CPU consumption across participating nodes. Such variations may lead to underutilization of available processing capacity on some nodes while placing excessive computational demand on others. This imbalance creates challenges in maintaining consistent processor utilization and making effective use of distributed computing resources. This paper addresses the problem of CPU utilization management in distributed computing environments, focusing on the variations in processor consumption across multiple nodes under different workload conditions. CPU utilization is considered a central performance parameter for understanding how computational workloads influence processor activity and resource consumption. The study emphasizes the relationship between workload intensity and CPU usage, particularly the differences in processor demand among nodes participating in distributed execution. It also considers the importance of identifying variations in CPU consumption, understanding peak utilization behavior, and examining the distribution of processing demand across the computing environment. Effective CPU utilization management is essential for reducing unnecessary resource pressure, avoiding excessive processor usage, and supporting balanced operation across distributed infrastructure. The subject is particularly relevant to modern computing environments that handle concurrent applications, changing workload demands, and diverse processing requirements. By treating CPU consumption as the primary evaluation dimension, this research addresses an important resource management challenge in distributed computing and establishes the significance of maintaining efficient processor utilization across multi-node systems.

Keywords

CPU, Utilization, Computing, Consumption, Processor, Workload, Management, Systems, Distribution, Allocation, Performance, Execution, Resources, Efficiency.

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Knowledge Management as an Ecosystem: An Integrative Conceptual Model Grounded in Ecolinguistic Foundations

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Abstract

Knowledge management (KM) is increasingly shaped by artificial intelligence, digital transformation, organizational culture, and sustainability concerns. However, these developments are often examined separately, while the communicative and discursive processes connecting them receive less attention. This study aims to conceptualize knowledge management as an interconnected socio-technical ecosystem through an integrative framework grounded in ecolinguistic principles. The study draws on a synthesis of peer-reviewed literature published between 2020 and 2025, complemented by foundational works in knowledge management, organizational learning, and ecolinguistics. A qualitative thematic approach is used to examine recurring concepts related to AI-enabled knowledge practices, organizational knowledge culture, sustainability, discourse, and knowledge ecosystems. The resulting conceptual model identifies four interconnected dimensions: digital and AI-enabled technologies, organizational knowledge culture, sustainability-oriented logic, and the broader knowledge ecosystem context. The study emphasizes that knowledge creation, sharing, and retention are shaped not only by technological infrastructure but also by communication, meaning-making, and organizational practices. By introducing an ecolinguistic perspective into the discussion of knowledge management ecosystems, the article offers an integrative analytical framework for further theoretical development and empirical investigation in digitally transformed organizations.

Keywords

Knowledge Management, Knowledge Ecosystem, Ecolinguistics, Artificial Intelligence, Sustainability, Organizational Culture.

From Sustainability Practice to Marketable Community Value: Evidence from Tourism Social Enterprises in Thailand

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Abstract

This study examines how tourism social enterprises in Thailand turn internal sustainability practices into community value that can be credibly marketed. A qualitative design was used, drawing on in-depth interviews with senior managers and community leaders of 20 tourism social enterprises and community tourism organizations, conducted between May 2023 and April 2024 and supported by field and observation notes. The data were analyzed through qualitative content analysis and grouped abductively into mechanisms. Four practices recurred across the cases: caring for place, involving communities in decisions, strengthening local skills and learning, and keeping benefits within the destination. Flexible risk management, tested during the COVID-19 pandemic, sustained these practices. All organizations reported capability-oriented innovation, whereas only 12 reported product innovation and 15 reported opening new markets. The findings indicate that sustainability claims become credible when they reflect everyday routines, working community relationships, and open benefit-sharing. The study proposes a process model linking these practices to visitor value. Managers and destination partners can make sustainability visible through specific, verifiable evidence, and policymakers can track local benefit alongside visitor arrivals. Future research should include visitor and resident perspectives in other Asia-Pacific settings.

Keywords

Tourism Social Enterprise, Sustainable Tourism Marketing, Community-Based Tourism, Social Innovation, Thailand.

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Understanding Consumer Perceptions and Awareness mechanisms in Sustainable Fashion Consumption Behavior: Empirical Evidence from Pakistan

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Abstract

The adoption of sustainable practices by consumers and achievement of UN Sustainable Development Goals has been a challenge. Consumers' psychological parameters towards sustainable fashion consumption need to be explored. Although firms design both social and environmental Corporate Social Responsibility initiatives, the perceived importance of each of these initiatives pertinent to sustainable fashion consumption is yet to be known. To address this gap, the present study employed attribution theory to empirically investigate the role of consumers' evaluation of sustainability issues and attribution of different CSR (social, environmental) efforts on sustainable clothing consumption behavior with the mediating role of perceived consumer effectiveness. Cross-sectional study is designed to collect quantitative data from young consumers of Pakistan using convenience sampling technique. Self-administered survey questionnaire is utilized for data collection. The findings revealed that consumer awareness, perceived CSR efforts (social) have significant positive relationship with sustainable fashion consumption while perceived CSR efforts (environmental) have no significant relationship with sustainable fashion consumption. The results also revealed that perceived consumer effectiveness mediates the relationship between perceived CSR efforts (environmental), CSR efforts (social), consumer awareness and sustainable fashion consumption. The insights obtained from results have contributed to literature by providing both theoretical and practical implications to academicians, marketers and policy makers. The study helps understand awareness-behavior linkage; consumer's attributions related to the social and environmental CSR efforts and the role of perceived effectiveness in determining sustainable fashion consumption.

Keywords

Consumer Awareness, Sustainable Consumption Behavior, Perceived CSR Efforts (social), Perceived CSR Efforts (environmental).

Art as a Tool: Recent Trends in Multidisciplinary Practice

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Abstract

Contemporary art increasingly operates beyond the production of autonomous objects. Artists now work with scientists, technologists, educators, health professionals, architects, environmental researchers, communities and policy-oriented organizations to investigate problems, communicate knowledge and create new forms of participation. This paper examines that shift through a focused review of recent literature and institutional reports, with particular attention to the period 2021–2026. It discusses art and technology, art–science collaboration, arts-integrated education, health and wellbeing, ecological practice, public art and spatial design, and emerging forms such as generative artificial intelligence, immersive media, data art and transdisciplinary research. The paper argues that the distinctive contribution of art in multidisciplinary contexts is not simply that it makes information more attractive. Artistic practice can provide alternative modes of inquiry, embodied experience, visual and narrative translation, speculative thinking and participatory methods. At the same time, interdisciplinary practice creates challenges involving authorship, copyright, ethics, unequal collaboration, accessibility and the evaluation of outcomes. The paper concludes that contemporary art is increasingly functioning as an interface between forms of knowledge rather than as an isolated field, but that its effectiveness depends on context, methodological clarity and equitable collaboration.

Keywords

Multidisciplinary art, art–science collaboration, generative AI, immersive media, STEAM, art therapy, eco-art, public art, data visualization, transdisciplinary research.

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Artificial Intelligence Adoption and Corporate Sustainability Performance: Evidence from UAE Companies

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Abstract

Companies listed in the United Arab Emirates (UAE) increasingly mention artificial intelligence (AI) and sustainability in their reports, yet little is known about whether firms that actually use AI also report more fully on environmental, social and governance (ESG) matters. This study examines the relationship between AI adoption and ESG disclosure among the 30 largest companies listed on the Abu Dhabi Securities Exchange (ADX) and the Dubai Financial Market (DFM). The study follows a quantitative content-analysis approach, drawing on publicly available annual, integrated and sustainability reports for 2023 and 2024. Information on AI adoption and ESG reporting is collected from these reports and checked independently by two team members to ensure consistency. The relationship is then tested using descriptive statistics, correlation analysis and regression analysis. The results show [main finding: e.g., whether companies with greater AI adoption provide more complete ESG reporting], with differences across sectors such as banking, telecommunications, energy and real estate. The study also distinguishes AI systems that are already in use from AI plans and announcements, showing how often companies describe AI ambitions rather than working applications. The findings contribute to the growing literature on digital transformation and sustainability in emerging markets. They also help investors and regulators separate genuine AI adoption from promotional statements, and support clearer AI and ESG disclosure guidance for listed companies in the UAE.

Keywords

Artificial intelligence, esg disclosure, sustainability reporting, United Arab Emirates, listed companies.

Artificial Intelligence and Its Ethical Implications: A Study of Professional Judgment and Trust in Accounting Information Systems in UAE Organizations

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Abstract

Artificial intelligence (AI) is rapidly being built into accounting information systems (AIS) in the United Arab Emirates (UAE), automating tasks such as transaction processing, reconciliation, anomaly detection and forecasting. However, adoption is moving faster than the governance and professional capabilities needed to use these systems responsibly, while accountants remain professionally responsible for judgments that rely on AI outputs. This study examines how ethical safeguards in AI-enabled AIS influence accounting professionals' trust in AI outputs and their willingness to rely on, question or override them. The study follows a mixed-method approach. An online survey is distributed to accountants, auditors and finance professionals working in UAE organizations, followed by short semi-structured interviews with experienced practitioners to explain the survey patterns. Survey responses are analyzed using descriptive statistics, correlation and regression analysis, while interview data are examined through thematic analysis. The results show [main finding: e.g., which ethical safeguards matter most for trust and how trust affects professionals' reliance on AI outputs], and how participants balance efficiency gains against concerns such as data privacy, errors and accountability. The study argues that the aim is not to maximize trust in AI but to ensure that trust is appropriate and that human professional judgment is preserved. Based on the findings, it proposes a practical responsible-AI governance framework to help UAE finance and accounting teams adopt AI while protecting the quality and credibility of financial information.

Keywords

Artificial intelligence, accounting information systems, professional judgment, trust, ethics, United Arab Emirates.

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Beyond the Classroom: Exploring AI's Role in Reducing Teachers' Administrative Burden and Supporting Instruction

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Abstract

This study investigates the impact of administrative workloads on pre-primary, primary, middle, and senior school levels, while evaluating the possibility of artificial intelligence (AI) to lessen routine duties. Beyond direct instruction, educators face persistent challenges including student behavioral management, parent communication, continuous assessment, extensive reporting, and administrative works.

A cross-sectional survey was distributed through Google Forms among some teachers from various schools in Oman. The instrument examined daily duties, administrative time allocation, stress management strategies, assessment practices, and educators' current familiarity, utilization, and perceptions regarding AI-driven tools for teaching and coping up with administration.

Findings indicate that administrative tasks consume a disproportionate amount of time, directly weakening the hours available for teaching and active lesson preparation. While participants identified significant utility for AI in streamlining repetitive tasks; such as lesson planning, worksheet creation, grading, and documentation, they strongly emphasized that human oversight and the relational aspects of teaching remain irreplaceable. Using AI effectively means giving teachers the space and support to build the right knowledge and skills. This goes beyond just learning how to write a good prompt; it involves hands-on guidance in choosing the right tools, using them responsibly, and weaving them naturally into daily teaching and administrative tasks. But teachers cannot figure this out alone. Schools and institutions play a vital role by offering meaningful professional development, creating safe spaces to explore new technologies, and providing clear institutional backing. When schools provide the support, teachers can embrace AI with confidence, and can lighten their load while ensuring that their own professional judgment always stays at the heart of the classroom.

The paper advocates for a human-in-the-loop framework, where AI serves as a support mechanism. Thoughtfully integrating AI into school operations can retrieve valuable instructional hours, permitting educators to dedicate more time to student engagement and innovative pedagogical practices.

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Closed-Loop Instructional Design: Teacher-in-the-Loop Reinforcement Learning for Preparing K–12 Teaching and Learning Materials

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Abstract

Preparing differentiated, standards-aligned teaching and learning materials is a workload for educators, yet conventional authoring systems produce static resources. This paper examines how reinforcement learning (RL) can convert material preparation into a closed-loop process in which alternatives are selected, sequenced, and revised using evidence from student interaction. An integrative review of 21 scholarly and policy sources was conducted, followed by a design analysis that mapped material preparation to a constrained Markov decision process. The architecture represents learner state through mastery, error patterns, engagement, accessibility needs, and prior exposure; actions include choosing content variants, difficulty, modality, scaffolds, examples, and formative checks. A multi-objective reward combines learning gain, delayed retention, engagement, equity, teacher revision cost, and safety penalties. The synthesis indicates that RL is most credible as a policy and optimization layer over a curriculum-governed material bank, rather than as an autonomous content generator. Contextual bandits and offline policy evaluation are suitable for low-risk deployment, while longer-horizon RL becomes appropriate only after longitudinal data and safeguards exist. Results also identify persistent limitations: sparse and delayed rewards, partially observed learner states, population shift, limited school-level field trials, and the danger of optimizing easily measured behaviors. Accordingly, the paper proposes a staged implementation model—teacher authoring, offline evaluation, constrained pilot, and monitored scaling—with inspectable recommendations and teacher override at every stage. The approach can reduce repetitive preparation, improve differentiation, and create reusable evidence about which materials work for whom, while preserving professional judgment, curricular coherence, privacy, and pedagogical accountability in diverse school contexts.

Keywords

Adaptive learning, instructional design, K–12 education, learning materials, reinforcement learning, teacher–AI complementarity.

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Leading Design for Continuity: An Integrative Review of Design Management and Organisational Resilience in Luxury Automotive Organisations

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Abstract

Luxury automotive firms depend on design to carry brand identity across many product generations. The leadership and governance of design therefore bear on organisational resilience, understood here as a firm's capability to anticipate change, cope with it and adapt to it. Relevant research is spread across six literatures that developed largely apart: design management theory, product development process, cross-functional integration, design leadership, luxury brand management and design value measurement. This integrative review brings them together. Searches of Web of Science, Scopus, ScienceDirect and Google Scholar covered 1990 to 2026 and were followed by citation chasing. Screening was reported in the manner of PRISMA 2020, and 61 sources were included. The synthesis identifies three tensions across the six literatures: structure against flexibility in the design process, hierarchy against collaboration in decision authority, and heritage against innovation in brand stewardship. None has been resolved in a design-intensive setting, and most of the evidence comes from high-volume manufacturers. The senior design leader is the clearest gap. Upper echelons theory predicts that this role should matter most where decisions rest on judgment that is hard to write down, and aesthetic judgment under brand constraint is such a case. No empirical study located in the review examines how the role works, although the review suggests that continuity of design judgment across generations of staff may depend on it. The paper proposes reading the field through three linked dimensions, namely process architecture, organisational governance and capability development, and sets out research questions for a practitioner study.

Keywords

Design management, design leadership, organisational resilience, luxury automotive, integrative review, governance.

Heritage and Innovation in a Creative Industry: A Practitioner Account of Design Management in Luxury Automotive Design

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Abstract

Product design is one of the creative industries, and in luxury car firms it must renew each model while keeping a brand that customers recognise by its look. Little is known about how the senior people who manage this work describe it. This paper reports a qualitative study of written answers from two senior design practitioners at one European luxury automotive firm. Both answered 30 open-ended questions sent by email, and the answers were analysed using six-phase thematic analysis. Four research questions guided the study, covering the design process and its approval gates, work with other functions, brand coherence, and design capability. The analysis identified eight themes. Both respondents treat heritage as a living language that guides each new design without fixing its look, and both link brand coherence to the performance and technology of each car. They also say design is led by the firm's own vision, with customer research in a supporting role. New tools, including virtual reality and artificial intelligence, are adopted only when they serve the design intent, and physical models are still needed to judge emotion. Both respondents hold that design success can be judged only over time. The process combines staged approvals with protected creative time, and one respondent describes showing proposals at about 80% feasibility and reaching 99% before final approval. The findings come from two respondents in one firm and are preliminary. They are stated as five propositions on how heritage-based creative firms combine continuity with innovation, for testing in later work.

Keywords

Design management, creative industries, brand heritage, luxury automotive, qualitative research, thematic analysis.

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Architecting an Agentic GCC: A Federated Multi-Agent AI Architecture for Cross-Border Trade, Logistics and Sovereign Economic Decision Intelligence

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Abstract

The rapid economic diversification and regional integration of the Gulf Cooperation Council (GCC) nations has lead to a deepened demand of the need for secure, scalable and resilient frameworks to manage the global supply chains, cross border trade and logistics and multi-jurisdictional policymaking to create an intelligent decision making mechanism which is capable of coordinating countries that are economically interconnected while simultaneously preserving their national data sovereignty. The research proposes a Federated Multi-Agent Artificial Intelligence (FMAI) architecture for the integration of GCC economies. This FMAI ecosystem of specialized AI agents where each agent will be performing a specific economic function and communicating with the other agents. The trade intelligence agent can analyze the trade flow, tariffs, demand and market opportunities, the custom agent predicts the custom requirements, documentation and clearance delays. Port and logistics agent will optimize the vessels, port, cargo and multimodal logistic decisions. The supply chain agent helps identify bottlenecks and predict disruptions. The economic intelligence agents evaluate the regional trades and economic scenarios. The risk agent identifies the geopolitical, environmental and supply-chain risks. The policy agent helps evaluate the potential effects of alternative regional trade policies. These exchange of standardized intelligence between the agents limits sharing all underlying national data. This research is based on a systematic literature review and conceptual framework development. The research analyzes how the federated multiagent AI architecture would enable collaborative intelligence across GCC trade and logistics systems while preserving the national data sovereignty and improving the cross border economic decision making. The research objectives include designing a federated multiagent AI architecture for the GCC cross-border trade and logistics, developing mechanism for inter-agent communication and collaborative decision making across national systems, instigation of how AI agents can improve customs, ports, transportation and supply chain coordination, examine how data sovereignty cybersecurity and interoperability affect regional AI collaboration, develop simulation scenarios for trade disruptions, port congestions, supply chain shocks and demand changes, evaluate the potential economic and logistical effects using Oman as a strategic case study within a comparative GCC framework and assess whether the architecture can be adapted to other regional economic blocs and cross border trade environments. The proposed framework in this paper is in consistent connection with Oman Vision 2040 and Oman's Logistics Strategy 2040 as it contributes to Oman's economic diversification and international trade, advances digital transformation and integration, supports a secure governance and digital sovereignty and promotes sustainable economic development. The study finds that greater interoperability between national AI agents is positively associated with cross border trade decision efficiency, multi-agent coordination can reduces simulated logistics disruption propagation across interconnected GCC supply chains, federated AI architecture can enable regional decision intelligence while reducing the need for centralized sharing of sensitive national data and AI agent collaboration has a measurable effect on simulated customs and logistics decision making efficiency.

Keywords

Multi-Agent AI, Federated AI, Agentic AI, GCC Economic integration, Cross-Border trade and Logistics, Data Sovereignty, Economic Decision Intelligence, Autonomous AI Agents, Interoperability, AI Governance, Oman Vision 2040.