PROCEEDING OF

INTERNATIONAL CONFERENCE 2024

HYBRID EVENT

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Editorial

We are delighted to extend a warm welcome to all participants attending the International Conference 2024 on 26th - 27th November 2024. This conference provides a vital platform for researchers, students, academicians, and industry professionals from all over the world to share their latest research results and development activities in multidisciplinary fields. It offers delegates an opportunity to exchange new ideas and experiences, establish business or research relationships, and explore global collaborations.

The proceedings for International Conference 2024 contain the most up-to-date, comprehensive, and globally relevant knowledge across various disciplines. All submitted papers underwent rigorous peer-reviewing by 2-4 expert referees, and the papers included in these proceedings were selected for their quality and relevance to the conference. We are confident that these proceedings will not only provide readers with a broad overview of the latest research results but also serve as a valuable summary and reference for further studies.

We are grateful for the support of many universities and research institutes, whose contributions were vital to the success of this conference. We extend our sincerest gratitude and highest respect to the professors who played an important role in the review process, providing valuable feedback and suggestions to authors to improve their work. We also appreciate the efforts of the technical program committee, reviewers, and authors for their dedication.

Since September 2024, the Organizing Committee has received more than 50 manuscript papers, covering various aspects of multidisciplinary research. After review, approximately 22 papers were selected for inclusion in the proceedings of International Conference 2024.

We thank all participants for their significant contribution to the success of the conference. Our gratitude extends to the keynote speakers, individual speakers, technical program committee, reviewers, and the organizing committee for their efforts in making this conference a reality.

Acknowledgement

The International Conference 2024, was successfully held in 26th - 27th November 2024. We extend our heartfelt gratitude to our colleagues, staff, professors, reviewers, and members of the organizing committee for their unwavering support in making this conference a success.

We would also like to thank all the participants who traveled far and wide to attend this conference and those who attended the event virtually, making it a truly global event. This conference provided a platform for students, professionals, researchers, and scientists to share their latest research and developments in various disciplines.

The aim of the conference was to promote research and development activities and to encourage scientific information exchange between researchers, developers, professionals, students, and practitioners from all around the world. Once again, we thank everyone who contributed to making this conference a resounding success.

Dr. JenniIrani Mithra
Director
World Academics (WA)

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The Load Shedding Impact on the South African Economy: Analyzing Price Inflation and Strategies for Post-Load Shedding Price Reductions

Prof. Mokgadi Julia Ngoepe-Ntsoane

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Prof. Oludele Akinloye, Akinboade

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Abstract:

Years of corruption and mismanagement have since left the Eskom utility company with a considerable debt that has prevented it from investing heavily in building new infrastructure and maintaining the old ones. Eskom lacks sufficient generating capacity as South Africa produces around 47,000 MW against an installed generation capacity of 52 000 MW and is struggling to satisfy growing demand for electricity in the country. To preserve the national electricity grid, Eskom has been resorting to voluntary power outages called loadshedding, which have a significant impact on the country's economic growth, public finances, and political stability. With loadshedding going on for the past 15 years, Eskom's power reliability was at its all-time lowest in 97 years disrupting and closing businesses and negatively impacting on households, costing the economy between R60-billion and R120-billion in 2019. The study seeks to contribute to the understanding of policy challenges confronting South Africa due to the economic downturn which caused an inflation on prices. Understanding South Africa's energy sector challenges is a path to fully understanding the country's business climate, an important link to attracting sectoral investment into the country's future growth. The study will cover a comprehensive review of documents such as the regulatory framework, policies, and other relevant reports to be able to uncover the prevalence and intricacies of loadshedding with a specific focus on the economic sector. The recommendations will contribute significantly to the governance decisions towards an improvement in the policy landscape.

The utilization of Artificial Neural Networks (ANN) and Response Surface Methodology (RSM) in Conjunction to Improve the Sustainable Phytoextraction of Lead from Contaminated Soil

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Abstract:

Lead (Pb) confinement on the soil surface is commonly acknowledged. For the past few decades, the most successful method for removing lead from soil has been phytoremediation, which entails several chemical reactions and cost analysis. To model and optimize Pb extraction from the contaminated soil via Pelargonium hortorum, this research compares two modeling approaches: artificial neural networks (ANNs) with the genetic algorithm (GA) and response surface methodology (RSM). To determine the importance of the suggested solution, bacteria and citric acid were co-applied on a Pb hyperaccumulator (Pelargonium hortorum L.) on Murashige and Skoog (MS) agar medium after the Pb tolerance of the bacterial strains (NCCP 1844, 1848, 1857, and 1862) was evaluated in vitro studies. Next, to optimize Pb extraction capability from Pb-spiked (0 mg kg−1, 500 mg kg−1, 1000 mg kg−1, and 1500 mg kg−1) soil, Pelargonium hortorum L. was employed in a pot culture experiment. Microbacterium paraoxydance (1 and 1.5 OD) and citric acid (5 and 10 mmol L^{-1}) were added to the mixture. Plants were taken out at 30, 60, and 90-day intervals, and their dry biomass and Pb uptake properties were examined.The maximum Pb extraction efficiency of 86.0% was reached after employing 500 mg kg−1 soil Pb for 60 days. Moreover, Pb extraction from the soil was simulated using RSM. It was predicated on the ANN-based LevenbergMarquardt Algorithm (LMA) and the Box-Behnken design (BBD). The relevance of the RSM and LMA projected values was demonstrated by their proximity to 36.0% and 86.05%, respectively. Upon careful examination, these findings validated the effectiveness, precision, and stability of the ANN throughout the optimization procedure. Therefore, experimental results showed that ANN is an accurate technique to optimize an integrated phytoremediation system for sustained Pb removal, in addition to being potentially economical and environmentally benign.

Keywords:

Soil pollution, bacteria, ANN, RSM, and citric acid.

Trauma and Teaching the Multilingual Refugee Learner: A Teacher Development Model

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Abstract:

Background: For the first time in the history of the United Nations High Commissioner for Refugees (UNHCR), the number of refugees and displaced people worldwide have surpassed 117 million (UNHCR, 2024). The unprecedented refugee crisis has dramatically changed the demographics of today's classrooms and this has left many teachers feeling ill-prepared to adequately meet the diverse needs of their students. Many multilingual learners have experienced forced migration as a result of war, conflict, human rights atrocities, and environmental disasters—situations that are often associated with trauma and mental health challenges both in the short and long term. Moreover, forced relocation and the process of adjusting to a new country can also be extremely stressful or traumatic. As multilingual students enter into classrooms in a host country, educators need to be aware of the potential for trauma within this demographic and be trained in trauma-informed practices and culturally-responsive teaching in order to provide the most appropriate support.

Objectives: This presentation will provide an overview of a teacher training model to support the multilingual learner who has been affected by trauma. Using the three stages, each of the 15 steps will be introduced along with a discussion about how administrators and teachers can use the 15 steps (three stage model) to focus on healing and care. The **Trauma Informed Schools and Healing Centred Engagement Model (TISHCE) was** adapted from the *HPRT model* in the *Primary Care Provider Toolkit*; *Trauma Story Assessment and Therapy* and, *Healing Invisible Wounds developed by Richard Mollica founder of the Harvard Program in Refugee Trauma.* Originally developed as a tool for primary care providers and psychologists, Mollica's toolkit was adapted and revised to appeal to a school practitioner audience (teachers, settlement workers, school counsellors, school administration) who are the front-line workers who work directly with refugee children and youth. The need for basic level knowledge on trauma is needed and providing professionals with some guiding principles and tips for supporting traumatized youth is essential. The Trauma Informed Schools and Healing Centred Engagement Model is a model to help teachers support and respond to children and youth who are healing from the effects of traumatic experiences.

Overview of the Trauma-Informed Healing Centred Engagement Model: This is a model for school practitioners (teachers, counsellors, administrators, settlement workers) who would have minimal or no training in psychological assessment and therapy. The intended use is to help these professionals provide basic mental health support to students who have experienced mass violence, torture or trauma. It is also not intended to be a replacement for providing therapeutic help, nor a replacement for medical attention.

The TISHCE model can be used as a guide for assisting children and youth who have experienced trauma. It is designed to provide general principles for caring and healing within a school or community environment. Stage 1: Creating a climate of Care is designed to help develop the kind of atmosphere and environment that is essential for establishing any classroom or school environment. These universal elements should form the foundation for all other work with students. Stage 2: Gathering Facts provides some suggestions for approaching and talking with students who might need additional support. Stage 3: Healing and Support provides strategies for teaching and learning

new skills to promote healing. This stage also includes a commitment for follow up work, a plan for the future and a process of reflection for the caregiver. The presentation will outline what teachers and school administrators need to know about engaging with students and supporting them when they are working through, or affected by, trauma.

The Integrated Waste Management and Sustainable Landfilling

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Abstract:

Waste management, being one of the most important aspects of urban development, is gaining importance among developing nations. Landfills, which were initiated for hazardous waste management and subsequently transformed into sanitary landfills, have been the most widely adapted practice for municipal solid waste management worldwide. The research were conducted over a 9 months period in 3 years on the operational strategy of the larger of the only two sanitary landfills and leachate treatment ponds in NIGERIA and sub-Sahara Africa. The purpose was to examine and evaluate the sanitary landfill and leachate stabilization ponds against the backdrop of technically sound and sustainable management options. However, the conventional design of landfills not only fails to fulfill the needs of waste management but also fails to target optimal resource recovery and energy generation. In the present study, modified design was proposed for partially engineered landfill system based on theoretical considerations based on integrated and sustainable principles that can deliver environmental, social and economic stability in the nation. Furthermore, it was found that the system with modified design could yield 2.157 million tons of landfill gas (2.145 million tons of coal equivalents) out of one year of solid waste. Further, this could recover resource valued at US$16.49 million per year.

Keywords:

Sanitary landfills, Sustainable and integrated solid waste management, Leachate stabilization ponds, Lagos, Nigeria and Sub-Saharan Africa, Developing economy.

Significance of Podcasts in the Digital Era

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Abstract:

The term "podcasting" was first suggested by The Guardian columnist and BBC journalist Ben Hamersley, who invented it in early February 2004 while penning an article for The Guardian newspaper.

Podcasting, once an obscure method of spreading audio information, has become a recognized medium for distributing audio content, whether for corporate or personal use. Podcasts are similar to radio programs in form, but they exist as audio files that can be played at a listener's convenience, anytime or anywhere.

Objective: The objective of this paper is to examine the origin and concept of podcasts and in the business environment, their usefulness in furthering businesses that are dependent on different forms of digital communication.

Design / Methodology / Approach –The Research paper is based on qualitative research followed by a small-scale survey across a cross-section of Business management students, practitioners, and academicians. The qualitative research involved interviews to gather qualitative information about Podcasts and their use. A small-scale quantitative study was taken up to understand the awareness of this medium.

Practical Implications and Findings – Although still a relatively new technology, podcasts, as well as the portable devices on which they are used, are changing how people interact with media. Today, urban landscapes, college campuses, and gyms are populated with people who use MP3 players to tune in to their preferred podcasts or music continuously. (Steven McClung and Kristine Johnson)

Originality / Value – The paper reports an empirical Research study and provides insights into the existing levels of awareness about Podcasts.

Conclusion: The growing popularity of Digital podcasts during this era can help determine the implications for marketing-oriented businesses to view podcasts as a more effective and efficient form of marketing communication media with customers.

South African Student Teachers in a Multicultural Social Science Classroom: An Analysis of the Teaching and Learning Experiences

Titus Williams

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Abstract:

South Africa's schooling landscape depicts a multicultural setting because of the change in government since 1994 when 'apartheid' was dismantled, and a democratic era was ushered in. Learners from different racial, ethnic, cultural and socio-economic backgrounds are now assembled in the same classroom. This qualitative study is an investigation of final years Social Science education students' experiences of Social Science teaching and learning in a South African multicultural classroom. The purpose of the study is to analyse the experiences of student teacher's engagement with diverse learners in Social Science multicultural classroom and the influence it has on the teaching and learning project. Through a qualitative research methodology, data was gathered from Focus Group Discussion (FGD) sessions with three groups of five teacher education students from the same race, in their final year, specializing in Social Science teaching. The results of the study indicate that student teachers find the teaching of Social Science in a multicultural classroom very challenging, irrespective of their race, culture, or socio-background. The study therefore recommends regular exposure to diverse learners through mandatory teaching practice at multicultural schools, appropriate training and development throughout the students' teacher training with supported policies and integration of social justice into the curriculum content.

Keywords:

Teaching and Learning, Social Science, multicultural, experiences, classrooms, diversity, student teachers.

Improvement and Simulation of a Facility Layout Design Using Systematic Layout Planning Methodology - Case Study

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Abstract:

This article focuses on improving and simulating a facility layout design for a packaging company using the Systematic Layout Planning (SLP) methodology. The study aims to enhance the efficiency of the facility by reconfiguring its layout to optimize workflow, reduce material handling costs, and improve overall productivity. The Systematic Layout Planning process involved analyzing the current layout, identifying key operational issues, and proposing an improved design based on activity relationships and space constraints. A simulation was conducted to compare the performance of the proposed layout with the existing one, focusing on factors such as time, distance, and resource utilization. The results of the simulation demonstrated significant improvements in operational efficiency, offering practical recommendations for the company's layout redesign. This case study underscores the value of strategic planning and data-driven decision-making in facility management, emphasizing the role of these approaches in optimizing workspaces. It also aligns with broader objectives, including sustainability and inclusivity, ensuring efficient and responsible facility design and operation.

Keywords:

Facility layout design, Systematic Layout Planning, facility management, Simulation, Manufacturing.

"Experience in the Prevention of Cyberbullying and Cybervictimization": Structure and Primary Psychometric Characteristics

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Abstract:

The aim of the study: development and validation of a questionnaire for diagnosing cyber victimization in schools in Kazakhstan.

The study conducted using the questionnaire “Cyberbullying and Cyber Victimization Experiences” by Antoniadou Nafsika and Kokkinos M. Konstantinos (Greek cyber-bullying/victimization experiences questionnaire CBVEQ-G) adapted to the Kazakh language, confirmed the two-factor structure of the cyber victimization scale (CV). Using confirmatory factor analysis, the convergent validity of the Kazakh version of the questionnaire was tested in comparison with the original methodology. As a result, the validity of the CV scale and the reliability of the correlation two-factor model of the scale (CV) were confirmed. In addition, the invariance of measurements by gender was established.

The relevance of the study is due to the need to develop a diagnostic tool specifically designed for Kazakhstani youth. This will eliminate the gap in the existing methodological base and conduct more accurate research on overcoming cyber victimization. The adaptation of the methodology was carried out from August to October 2024 on a sample of 201 adolescents aged 11 to 17 years. The average age of the study participants was 14.3 years. The percentage of boys and girls among the study participants was 44.8% (90 people) and 55.2% (111 people), respectively.

Materials and methods: Kendall's rank correlation criterion was used to assess the relationship between variables. Data on respondents' agreement with each statement are presented as a mean value, standard deviation, and percentages. Student's t-test was used to test the statistical significance of differences between groups of respondents. Before applying this criterion, the normality of the data distribution was checked using the Shapiro-Wilks test.

The results showed that the choice of certain answer options correlates with various aspects of cyberbullying and traditional victimization. Kendall correlations of all 13 questionnaire tasks were positive, statistically significant and ranged from $r = -0.191$, $p \leq .005$ to $r = 0.755$, $p \leq 0.001$.

Keywords:

Two-factor structure of the cyber-victimization scale, convergent validity, reliability, measurement invariance, Greek cyber-bullying/victimization experiences questionnaire CBVEQ-G diagnostic tool, Kazakhstani youth.

The Support for Organ Donation Among Saudi Arabians

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Abstract:

This paper explores support for organ donation among Saudi Arabians, aiming to understand the predictors influencing individuals to support organ donation. The paper included socioeconomic variables such as age, gender, marital status, education, income, and employment status. In addition, variables about the general support for organ donation, social cohesion indicators, altruistic behavior, ideological beliefs, multilingualism, and loneliness.

Sample: The participants' age ranged from 18-70, with a mean of 35. Most were male (59%), married (61.9%), holding a bachelor's degree (51.5%), in the middle/ high-income (55.4%), and employed (62.8%). Most participants reported high family cohesion, indicating solid relationships with parents, spouse/children, and siblings. In addition, most reported high community cohesion, indicating solid relationships with relatives, elderly relatives, tribe members, friends, and neighbors. Furthermore, most of them reported high altruistic behavior, valuing the importance of helping others (97.6%), seeing it as a societal responsibility (97.3%), and valuing volunteerism (92.3%).

Findings: The logistic regression analyses on various aspects of organ donation identified several significant predictors, including altruism, multilingualism, gender, employment status, income, and ideological belief.

In multiple linear regression, the result indicated altruism (B= .188, p < .001), multilingualism (B= 0.175, p= .038), and ideological beliefs(B= -0.365, p < .001) significantly predicted general support for organ donation. All other variables were not significant.

Keywords:

Organ donation, support for organ donation, willingness to register as an organ donor, Saudi Arabia.

Unethical Pro-Organizational Behavior and Team Climate: Examining the Employees' Behavior Fostering Team Unethical Climate

Saleem Azhar

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Abstract:

Unethical pro-organizational behaviour (UPB) causes unethical repercussions among the employees at workplace. Leaders' unethical behavior may pervade employees' ethical self-sanctions and eventually develop team-level unethical climate. We draw upon social cognitive theory to propose that leader UPB may develop team-level unethical climate, and through employees' moral disengagement. We also assess if employees' ethical values help to attenuate the impact of leader UPB. We used structural equation modelling on multi-wave and multisource data collected from 165 leaders and 495 employees of manufacturing organizations operating in an industrial city of Pakistan. We found support for our proposed multilevel top-down and bottom-up model. Our results provide evidence that employees abstract the unethical behavioral principle from leader UPB and enact novel behavior far beyond what they observe from leader. We also found that employees' ethical values as contingent factor weakened the positive relationship between leader UPB and employees' moral disengagement. We discussed our findings' theoretical and practical perspectives.

Keywords:

Social Learning Theory; Moral Disengagement; Unethical Pro-Organizational Behavior; Ethical Climate; Ethical Values.

The Impact of Urgency on Collaborative Responses to Grand Challenges

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Abstract:

While inter-organizational collaborations are critical to addressing grand challenges, they are also fraught with complexity and notoriously difficult to manage, partially because they are characterized by high urgency. In this chapter, we develop the case study of Decathlon's inter-organizational collaboration to adapt snorkelling masks into respiratory devices and personal protective equipment to combat the medical equipment shortage at the start of the COVID-19 pandemic. We find that the condition of urgency created by the grand challenge shifts why and how inter-organizational actors develop shared responses to paradox. Specifically, we find that urgent paradoxes enable organizations to enact paradoxical practices, even in the absence of experienced tension and a paradox mindset. Our findings offer contributions to the dynamic equilibrium model of organizing. First, we propose a new pathway directly from latent tension to paradoxical practice, suggesting that conditions of urgency may create actionable latency that rivals the effects of recognized salience. Second, we extend the notion of both/and, pointing to the critical importance of balancing 'over time', rather than 'in the moment'. Third, studying urgency allows us to redefine what it means to transcend under conditions of urgency. Here, rather than transcending by employing a paradox mindset to see both poles of a paradox as simultaneously necessary and complementary, transcendence under urgency involves moving beyond the original poles of the paradox toward focus on a 'greater goal'.

Keywords:

Grand challenges, inter-organizational collaboration, paradox, tensions, urgency, actionable latency.

A critical Appraisal of al-Masudi's Perception of Northern India: A Special Study on Multan

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Abstract:

Abu al-Hasan Ali b. Husayn al-Masudi was descended from Abd Allah b. Masud – a companion of the Prophet Muhammad. Al-Masudi was born in Baghdad and became one of the most important historiographers to travel to India and China and across the Muslim world and record significant information (cf. Ibn al-Nadim 1398/1978, p. 219; Yaqut al-Hamwi 1922, vol. 13, p. 90; al-Kitbi 1951, vol. 2, p. 94; Ibn Taghribirdi, n.d, vol. 3, p. 315). He was prolific historian and composed a voluminous works in various fields, including history, genealogy, geography, astronomy, mathematics and religion. Among more than thirty-five books written by al-Masudi, only two have survived: *Muruj al-Dhahab* and *Tanbih wa-al-Ishraf*. On the basis of his historiography, Alfred Von Kremer called al-Masudi the Arab Herodotus (al-Zirikli 1980, p. 7/2; Maluf 1978, p. 736).

Al-Masudi's historical writings on India are considered unbiased and objective, even by Indian historians. He evaluated divergent ideas and conflicting reports regarding important event in Indian history. Al-Masudi visited Multan after 300/912, during the reign of Abu al-Luhab al-Munabih b. Asad al-Qurashi (al-Masudi 1385/1865, 189/1) and recorded that Multan remained under the rule of the Qurayshis who were descendants of Sama b. Lui b. Ghalib during the third century of hijrah. There was also a cantonment for armed forces in Multan – and a great Muslim army resided there equipped with necessary ammunition – because the city was situated at one of the most important frontiers of the Muslim dynasty. Al-Masudi recorded first-hand information based on his personal observations. Srivastav notes that al-Masudi was not simply an enlightened thinker, but was also much ahead by his contemporaries:

> He enumerates a series of ancient kings of India starting from Brahma who, according to him, reigned for 366 years. Al-Masudi, personally, visited many places of India and gave clear account of the political and social customs of the Hindus. The main feature of his work is that he also mentions about the tongue and language of the Indian people of the various places. Al-Masudi greatly admires the kings of Balhara for their greater respect for and protection of Islam. (Srivastav 1980, p. 6)

Al-Masudi depended mostly on the Shi'ite reports regarding the Umayyad assessment, while his presentation of Multan is based on his personal observations without evidence from other historical sources. He portrays Multan as the centre of Hindu civilisation and religious activities. In his attempts to depict the social and intellectual conduct of Hindu society, al-Masudi's elaboration of history in *Muruj al-Dhahab* is anecdotal. *Muruj* is also an important source for the study of Hindu culture and civilisation. These accounts are vital for establishing an authentic and reliable understanding of the nature of Hindu–Muslim relationships in the Multan and Sindh regions particularly. According to al-Masudi, Raja Bhuj Rai- king of Qunuj was considered a great danger to Muslim rule in Multan and Sindh, while the relationship between Balhara –a general title of the rulers of Deccan – and Muslims was cordial, as both had to cope with a general common enemy. Such narratives greatly assist our understanding of the nature of internal conflicts among Hindu rulers and the formation of political development during the early medieval period.

The Arab travelers were unanimous in describing the religious importance of Multan. According to these travellers, Multan was one of the most celebrated places of Hindu worship to which people would come on pilgrimages from the great distances. Al-Masudi also records that there was a famous statue of a deity/idol that known as Moltan. Thousands of people from across India and Sindh used to go on pilgrimage to the statue and paid homage to the idol. They also presented precious stones, aloe-wood and all sorts of perfumes to fulfill their vows (Elliot and Downson 1952, p. 23/1).This idol was the main source of income for the people of Multan, as the visitors brought aloe-wood, a kind of costly wood – twenty kilogrammes of aloe-wood costone hundred *dinar* –that was very soft and easily engraved. According to al-Masudi, presents offered to this idol-temple were the greatest source of income to the local king, so the idol had great significance in the socio-religious and political life of the area. Whenever Indian rulers attacked Multan, Muslim rulers used to threaten to destroy the idol, so the Indian attackers would retreat without damaging Multan (Muhammad Nasr, 2014, pp. 32, 86, 90, 98, 126).

Other Arab historians such as al-Istakhri (d. 328/957) described in detail the grandeur and religious significance of Multan. Al-Istakhri wrote that the temple of Multan was the most important centre of worship for all who idol-worshippers across Sindh and Hind. Moreover, Ibn Haukal (d. 367/977) visited India in the middle of the 10thcentury, and he also recorded the significance of Multan and the centrality of the temple for idol-worshipers in the region. Al-Idrisi (d. 559/ 1166) also considered the idol of Multan to be the most venerated idol in India. Visitors came from the most distant regions of India and Sindh, believing that the idol of Multan was superior, so the pilgrims highly respected and obeyed it (Elliot and Downson 1952, pp. 28, 81–82).

The early sources also confirm that the idol temple of Multan was the most celebrated in India at the time the Arab travellers visited India. Al-Baladhuri in *Futuh al-Buldan* and the Indian source Chach-Nama indicate that Multan was the centre of culture and civilisation and the key factor of its centrality was its temple (Al-Baladhuri, vol. 1, 123-205). Muhammad b. Qasim had to face great challenges in the conquest of Multan in 713 C.E. because the Indians fought against Qasim to defend and safeguard the sanctity of the temple. However, he successfully defeated the Indians and obtained great wealth from the temple (Elliot and Downson 1952, pp. 123, 206; Srivastav 1980, p. 61).

Insulin-Mediated Glycemic Responses and Glucose Homeostasis in Black Sea Bream (*Acanthopagrus schlegelii*) Fed Different Carbohydrate Sources

Sehrish Taj

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Abstract:

The present study was conducted to investigate the effects of dietary carbohydrate sources on insulin mediated glycemic responses and glucose homeostasis in black seabream. Four isonitrogenous (48%) and isolipidic (12%) diets were formulated to contain 20% glucose (GLU), sucrose (SUC), dextrin (DEX) and wheat starch (WS), respectively. The black seabream was randomly distributed into 12 tanks (n = 3) at a stocking density of 12 fish per tank. After 2 weeks of feeding, fishes were starved for 48 h then re-fed and sampled at 0, 1, 3, 6, 12, and 24 h. The results showed that the concentration of serum glucose increased at 1 h, peaked at 3 h, decreased at 12 h, and returned to basal level at 24 h in all dietary groups ($p < 0.05$). Overall, the results of present study indicated that dietary carbohydrate sources resulted in a hyperglycaemic situation 3 h after feeding, most likely as a response to glucose loading. Moreover, glucose metabolic responses were regulated by different carbohydrate sources at different time points, and plays a important role in clearing glucose through increased activity of insulin, glycolysis, and glycogenesis, along with gluconeogenesis suppression.

Relationship between Value Relevance of Accounting Information and Investment Decision, Evidence from Nigeria Capital Market

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Abstract:

This study investigated the relationship between the value relevance of accounting information and investment decisions in the context of the Nigeria Capital Market. The value relevance of accounting information is crucial for investors as it provides vital data about a company's financial status, aiding in strategic decision-making. However, the quality and relevance of this information can significantly impact its usefulness. This research aimed to assess the value relevance of accounting information and its influence on investment decisions, providing evidence from the Nigerian Capital Market. The study adopted a cross-sectional survey design. The population for this study consisted of all quoted commercial banks in Nigeria. Available data from the Port Harcourt branch of the Nigerian Stock Exchange (NSE) revealed that there are 15 listed commercial banks in Nigeria. This study utilized primary and secondary sources of data. The findings of this study could offer valuable insights for investors, financial analysts, and other users of financial statements. It was concluded that there is no significant relationship between the reliability of accounting information and dividend per share. Comparability of accounting information does not significantly affect earnings per share while timeliness of accounting information does not significantly affect net assets value per share. The study recommended amongst others that all quoted companies on the Nigerian Stock Exchange must as a matter of urgency comply with the preparation of Simplified Investor's Summary Accounts (SISA) with emphasis on accounting information on earnings, book value, dividends and cash flows aside from the mandatory detailed financial statements. This will remove information overload, particularly for nonaccountants and non-financial analysts.

Keywords:

Value Relevance of Accounting Information, Investment Decision, Relationship Evidence, Nigeria Capital Market.

Family Separation and Academic Stress: Mental Health Challenges for Sri Lankan Students in Singapore

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Abstract:

This research explores the role of family separation on the academic stress and mental health challenges of Sri Lankan students in Singapore. Annually, many Lankan students migrate to other countries for education and stay away from their families' homes and loved ones for years. Long separation could lead to severe psychological and emotional distress for those students. It enquires how the lack of direct family backup affects the students' mental health, their studies, and their capacity to handle the challenges of tertiary education in a foreign land.

This study takes a mixed-method approach and will combine qualitative interviews with students and quantitative surveys to gauge the extent of academic stress, anxiety, depression, and levels of feeling of isolation related to academic life challenges among Sri Lankan college students in Singapore. This perspective is corroborated by research in migration mental health that also addresses the cultural factors, such as collectivist family structures and expectations, that contribute to migrant students' mental health experiences. Results underscore how family separations produce more emotional distress through cultural pressure to succeed, limited social support networks and difficulty fitting into the new life.

This research supports the call for enhanced mental health services directed at vulnerable international students, who in some countries may come from cultures built on solid family unity as a base of their lives. The research also calls for institutional responses in Singapore, including culturally appropriate counselling for Sri Lankan students. These findings will hopefully provide a foundation for more effective coping techniques and support to assist migrant students in dealing with the mental health implications of family separation.

Keywords:

Family Separation, Academic Stress, Mental Health, Sri Lankan Students, International Education.

Investigation of Flow Dynamics and Combustion Characteristics in Shower and Rocket Type Burners Using CFD Simulations

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Abstract:

This study addresses the need for energy-efficient and low-emission combustion technologies by investigating the flow dynamics and combustion characteristics of shower and rocket-type ceramic burners. Traditional burners face challenges with inefficient air-fuel mixing, leading to higher fuel consumption and emissions. Using Computational Fluid Dynamics (CFD) simulations, the study analyzes fluid velocity, temperature distribution, and combustion efficiency under varying fuel power inputs for both burner types. The simulations revealed that the rocket burner outperformed the shower burner, achieving a maximum velocity of 5.6 m/s and a peak temperature of 1,396.75 K, compared to the shower burner's 4.4 m/s and 1,361.75 K. These results suggest that the rocket burner's design promotes better air-fuel mixing and higher combustion efficiency, particularly at elevated power inputs. Validation against experimental data showed minimal errors—6.52% for the shower burner and 5.7% for the rocket burner—indicating the reliability of the CFD models. The findings highlight the rocket burner's suitability for high-temperature applications, where sustained combustion intensity is essential. In contrast, the shower burner exhibited lower performance, limiting its use in high-thermal-output processes. This research underscores the significance of burner design in optimizing combustion performance, offering valuable insights for developing energy-efficient burners. The study also demonstrates the effectiveness of CFD simulations as a cost-effective tool for burner optimization, contributing to reduced fuel consumption and emissions in industrial combustion systems.

Keywords:

Ceramic burners, Computational Fluid Dynamics (CFD), Fluid velocity, Temperature distribution, Rocket burner, Shower burner.

Minor Psychiatric Disorders in Pre-University Students

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Abstract:

Introduction: Pre-university students are often subjected to high levels of stress due to the academic pressure of being aprproved in the entrance exam and the need to choose a career, making them particularly vulnerable to developing minor psychiatric disorders (MPD). This scenario of psychological vulnerability highlights the importance of early recognition of MPD.

Objective: To analyze the prevalence of minor psychiatric disorders in pre-university students and associated factors.

Method: This is a cross-sectional study comprising 96 pre-university students. Students over 18 years old who agreed to participate in the research were included. Sociodemographic questionnaires and the SRQ-20 (Self-Report Questionnaire) were used. The data were descriptively analyzed using the Chi-square test and Fisher's exact test for categorical variables, with a significance level of 5% ($p < 0.05$).

Results: A total of 96 students, aged between 18 and 26 years, of both sexes, participated. Among them, 64.6% presented mental distress, which was associated with being female ($p = 0.027$). The average sleep time was 6 hours and 54 minutes, and 89.4% of the students turned off their screens right before sleeping.

Conclusion: The high prevalence of mental distress, especially among women, is a warning sign. The significant association between being female and mental distress highlights the urgent need for interventions aimed at promoting mental health, with special attention to vulnerable population.

Keywords:

Minor psychiatric disorders, students, mental health.

Holy Quran Memorization System

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Abstract:

A Quran Memorization system was the outcome of this project. As a result of the conducted research, it was found that there is no existing system that provides full support for learning the Holy Quran remotely. One of the main objectives of the project is to produce a smart, easy and reliable system for the students and teachers. The system is an integration of a control website that is accessed by institute instructors and mobile application for teachers, students and students' guardians. This was due to an existing need for providing Quran lessons online to gain high benefits during the least possible time.

Enhancement of the Quality in PET Brain Images Using *AutoGANcoder* Algorithms

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Abstract:

Nowadays, disease diagnosis using Positron Emission Tomography (PET) is on the rise. The quality of images produced by PET scanners plays a significant role in accurate diagnosis. However, these images often contain substantial noise due to photon attenuation and scatter. Therefore, PET images require attenuation correction (AC) and scatter correction (SC) to provide precise metabolic information about the patient's organs. CT-based correction methods expose the patient to significant ionizing radiation. The aim of this research is to enhance the output image quality of PET scans using Generative Adversarial Networks (GAN), a revolutionary approach in modern medical imaging, to reduce errors and patient exposure to radiation. In this study, 92 epilepsy patients with an average weight of 72.15 kg were scanned. These patients underwent brain imaging after being injected with an average activity of 347.13 MBq of FDG radiotracer over a duration of 1200 seconds. These brain images served as the dataset for our designed algorithm, a GAN-based model. Image quality metrics such as SSIM, PSNR, MSE, FID, and LPIPS were measured. Our AutoGANcoder algorithm, a unique combination of a GAN and an advanced autoencoder, demonstrated that it significantly improved PET imaging quality. When compared to other algorithms, the results show that the AutoGANcoder model is a promising choice for improving brain PET image quality.

Keywords:

Positron Emission Tomography, Generative adversarial network, brain images, Deep learning.

The Sustainable Leadership Practices in the Lebanese Family Businesses

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Abstract:

The study presents the Leadership Practices in Family Business in Lebanon to determine whether these practices affect does it have on family business performance and continuity, and focuses on the relationship and common themes between the Leadership practice and the family business performance for the first and second generation of the family business. Thus, the main aim of the article is to detect the relationship binding the individual leadership practices i.e. model the way, inspire a shared vision, Challenge the Process, enable others to act, and Encourage the heart and family business performance. In addition, to investigate the factors that bolsters family business continuity. These organizational structures vary from one business to another; one or more family members manage them, and the succession process in transferring the leadership from one generation to another is an essential factor.

Keywords:

Leadership, family business, business performance, second generation, Leadership Practices Inventory (LPI).

Reflections on Gender Asymmetries in the Portuguese Language: Linguistic Structures and Social Implications

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Abstract:

This article examines the manifestations of gender asymmetry in the Portuguese language, where a gendered grammatical system assigns masculine and feminine genders to nouns, adjectives, and pronouns. Such a system can reinforce gender asymmetries, stereotypes, and inequalities, especially affecting women, by perpetuating and normalizing male dominance and female marginalization within the language. Drawing upon the sociolinguistic theories of Edward Sapir (1933) and Benjamin Lee Whorf (1941), as well as the theories of women's writing and gender studies from scholars such as Judith Butler (1993) and Karen Sacks (1979), this paper analyzes how these gender asymmetries are represented in the Portuguese language. Additionally, it explores the sociocultural and historical contexts that contribute to these linguistic phenomena, such as the pervasive influence of patriarchal values and norms embedded in the language. The paper also considers the implications of these findings for language policy and educational practices, arguing that recognizing and addressing gender biases in language can be a significant step towards promoting gender equality. By highlighting these issues, the article contributes to the ongoing debate on gender and language, offering insights that could help reshape perceptions and encourage more inclusive language use in both formal and informal settings. This study aims to inform and influence future discussions on the intersection of language, gender, and social equality.

Keywords:

Portuguese language; Asymmetry; Linguistic sexism; Gender issues.

Modeling the Inhibition Zone Diameter of Pathogen Microorganisms via Artificial Neural Networks

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Abstract:

Antibiotics play a crucial role in modern medicine due to their ability to treat bacterial infections. However, due to the rise of antibiotic resistance, there is a renewed interest in the use of new alternatives. In this paper, we present the use of artificial neural networks to predict the inhibition zone diameter in bacteria cultures with the use of three natural extracts (Jamaica, neem, and *Pleurotus* mushroom). The experimental results were collected in a dataset, considering as input variables the source of natural extract, the solvent (water and ethanol), and the extract concentration. On the other hand, the response variable is the measure of the inhibition zone diameter. Four bacteria were analyzed (*Staphylococcus aureus, Salmonella, Listeria monocytogenes,* and *Escherichia coli*), and an artificial neural network (ANN) for each one was created. The coefficient of determination (R^2) obtained was 0.9999, 0.9998, 0.9999 and 1, respectively, and the rootmean-square error was less than 0.07 in all the cases. To sum up, these models can be used to obtain the inhibition zone diameter of natural extracts applied to pathogen microorganisms and identify the most effective natural product to be used as an antibiotic