ICGSTM2023

PROCEEDINGS OF THE 2ND INTERNATIONAL CONFERENCE ON GREEN SUSTAINABLE TECHNOLOGY AND MANAGEMENT 2023

Scientific and Social Business Development Towards Green Sustainability

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PROCEEDINGS OF THE 2nd INTERNATIONAL CONFERENCE ON GREEN SUSTAINABLE TECHNOLOGY AND MANAGEMENT 2023

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Foreword

We are honored to welcome you all to the 2nd International Conference on Green Sustainable Technology and Management 2023 on behalf of the organizing committee (ICGSTM2023). This conference seeks to give academics, academicians, and professionals from diverse sectors a global stage to present the most recent findings and research that support the Sustainable Development Goals (SDGs) of the United Nations (UN). This will make it possible to collaborate and exchange ideas across sectors including engineering and information technology, health and life sciences, education, business, and management to find answers to current and upcoming problems. By doing this, we hope that the conference's results will stimulate research and knowledge creation for a better, greener future.

In my capacity as the conference's organizing chair, I would like to express my gratitude to all of our presenters for their academic contributions that have brought up important issues related to green technology and sustainability. I also thank our distinguished keynote speakers for sharing their extensive knowledge in their respective fields.

Last but not least, I want to express my sincere gratitude to the ICGSTM2023 organizing committee members, session chairmen, and masters of ceremonies for their dedication and efforts to make this conference a success.

Professor Dr. Geetha Subramaniam
Conference Chair
2nd International Conference on Green Sustainable Technology and Management 2023

Track 1: Health and Life Sciences

Sustainable initiatives are receiving increased attention, and the health and life sciences industries have been actively participating in sustainable development with the goal of ensuring healthy lives and promoting well-being. This goal encompasses medical aimed at safeguarding people's health, such as combating the antimicrobial resistance crisis and reducing the risk of epidemics and pandemics. On the other hand, initiatives to combat climate change, ensure access to clean water, land, and sanitary facilities for a quality life, and promote sustainable innovation and infrastructure for a green environment are equally important.

The ICGSTM 2023 will include a track on sustainable development in the health and life sciences, and we would like to hear your perspectives on how life and health sciences can contribute to sustainable development. We believe that knowledge will contribute to a greener and better world!

Track Chair: Dr. Wong Rui Rui
Faculty of Health and Life Sciences, INTI International University

Assistant Track Chair: Associate Professor Dr Ong Ghim Hock
Faculty of Health and Life Sciences, INTI International University

ACUPUNCTURE TREATMENT OF POST STROKE APHASIA

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ABSTRACT

Post stroke aphasia is a communication disorder that occurs after stroke and patient suffer from dysfunction in listening, comprehension, conversation, reading and writing that affects their daily life. With the aging of the population, an increasing number of stroke sequelae patients have brought a heavy burden to their families and society. For the treatment of post stroke aphasia, western medicine mostly uses a combination of western medicine treatment with speech rehabilitation training. However, the results are not particularly satisfying. Meanwhile acupuncture plays an important role in treating this disease due to its own unique effectiveness. The objective of this study is to review the effectiveness of the different types of acupuncture methods and to analyze the method of acupuncture treatment based on the acupoints and meridians used to treat post stroke aphasia. All the data are collected from online databases from CNKI based on the inclusion and exclusion criteria. The data collection is tabulated using the Microsoft Excel and results are discussed. There are 40 selected journals that are eligible for inclusion criteria which consists of different types of methods for example tongue acupuncture, scalp acupuncture, body acupuncture and combined acupuncture to treat post stroke aphasia. Based on the results, the highest clinical efficacy in tongue acupuncture is needling the tongue tip without retaining the needle method whereas in scalp acupuncture method, the highest clinical efficacy is needling on language I, II, III area, while in body acupuncture method, the highest clinical efficacy is needling on Bai Hui, Feng Chi, Jin Jin, Yu Ye, Lian Quan, He Gu, Ren Zhong, Nei Guan, Ji Quan and San Yin Jiao acupoints. Overall, the combined acupuncture method showed highest effective rate among the four different types of acupuncture methods in treating post stroke aphasia. In conclusion by reviewing all the recent experimental articles, acupuncture showed higher effectiveness in treating post stroke aphasia compared to conventional therapy. The World Health Organisation (WHO) defines a Sustainable Healthcare System as a system that improves, maintains or restores health, while minimizing negative impacts on the environment and leveraging opportunities to benefit of the health and well-being of current and future generations. In fact, acupuncture treatment can improve the health and well-being of the post stroke patient with long term cost savings as a sustainable health care.

Keywords: sustainable healthcare, traditional Chinese medicine, acupuncture, post-stroke aphasia

FROM RESOURCEFUL TREATMENT OF COKING WASTE WATER TO PREPARATION OF ELECTRODE MATERIALS FOR STRETCHABLE FUEL CELLS

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ABSTRACT

As a major nation for producing and using of the coal, coking industry is really common in China and therewith brings about serious environmental pollution. Compare to the traditional treatment methods of coking waste water which mainly convert sulfur compounds to sulfate we focus on development of catalyst which can efficient transferring sulfur compounds into thiosulfate and sulphur. Large amount of sulfate could beyond potential needs and so as to cause new problem of solid wastes, while thiosulfate and sulphur can be widely used as valuable industrial raw materials. Furthermore, the cost of this wastewater treatment could be largely covered by the value of its products e.g. thiosulfate and sulphur. Another material including ultrathin gold-platinum nanowire is also developed and was found to be an efficient catalyst for water splitting. Thus a skin-like stretchable fuel cell is demonstrated which can be patterned and transferred onto human skins as “tattoos” yet can offer high stretchability and reasonably high power density, indicating potential applications to power next-generation soft wearable electronics for remote healthcare and soft robotics.

Keywords: catalysis, resourceful utilization, flexible, nanomaterials

1-03

THERMAL DRIVEN SELF-ASSEMBLY TO PRODUCE ALBUMIN NANOPARTICLES: DEGRADATION BEHAVIORS, FORMATION MECHANISM AND DRUG LOADING

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ABSTRACT

Unlike other methodologies, thermal driven self-assembly is a novel method to prepare albumin nanoparticles without involving in any organic solvents or toxic reagents. Bovine serum albumin (BSA) which exhibits 76% homology with human serum albumin (HSA) is used as the model albumin here. In this study, spectroscopic methods including fluorescence spectroscopy, circular dichroism (CD) and differential scanning calorimetry (DSC) were employed to study the formation kinetics and mechanism, while trypsin and glutathione (GSH) were used to investigate the degradation behaviors of BSA nanoparticles. In addition, doxorubicin was used as the model chemotherapeutic agent to evaluate the drug loading ability. The results showed that BSA nanoparticles were completely formed within 2 hours. With the digestion of trypsin, over half of the BSA nanoparticles were degraded within 1 hour. By integrating all the data including the spectroscopic data, the degradation data and the SDS-PAGE results, the formation of BSA nanoparticles were based on the disulfide bonds and peptide bonds formed between BSA molecules, as well as Schiff bases formed between BSA and vanillin molecules. Moreover, doxorubicin can be highly loaded to the nanoparticles with a drug loading efficiency up to 27.77%. Thus, BSA nanoparticles produced by thermal self-assembly is a promising platform for the delivery of anticancer agents.

Keywords: thermal driven self-assembly, albumin nanoparticles, degradation behaviors, formation mechanism, drug loading

LACCASE AND MANGANESE PEROXIDASE ACTIVITY IN POTENTIAL FUNGAL SPECIES ISOLATED FROM LANDFILL IN MALAYSIA FOR POLYPROPYLENE DEGRADATION

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ABSTRACT

The demand for new and affordable anti-diabetic alternatives has led to increased interest in natural products. In this study, we investigated the anti-diabetic and antioxidant properties *of Siraitia grosvenorii, Orthosiphon stamineus*, and *Dimocarpus longan* extracts, both individually and in mixtures. The α-amylase inhibitory activity was significant in the extracts of *S. grosvenorii* and *O. stamineus*, with half-maximum inhibitory concentrations of 9.5 ± 0.12 mg/ml and 5.45 ± 0.40 mg/ml, respectively. However, the mixture between the extracts showed higher α-amylase inhibition efficiency at around 10% higher than the individual extracts. The total flavonoid and phenolic content of *O. stamineus* was found to be more than 100 times higher than the other two extracts and the mixtures. The DPPH free radical scavenging activity of the extracts and their mixtures show that *O. stamineus* has the most significant inhibitory activity at 0.10 ±0.75mg/ml as compared to other extracts and mixtures. The mixture of *S. grosvenorii* and *O. stamineus* showed the most promising antioxidant and anti-diabetic activities among the mixtures. Our results suggest that plant mixtures could be a potential strategy for evaluating the anti-diabetic and antioxidant activities of natural extracts and improving their utilization.

Keywords: antidiabetic, *Siraitia grosvenorii*, *Dimocarpus longan* Lour., *Orthosiphon aristatus,* mixture

SCREENING AND IDENTIFICATION OF HIGH-DENSITY POLYETHYLENE (HDPE) DEGRADING BACTERIA FROM SELECTED MALAYSIAN LANDFILL

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ABSTRACT

High density polyethylene (HDPE) is widely used in household, medical and agricultural industries. HDPE builds up on the earth as either entire or microplastic. As a result, the ecosystem, marine life, land life, and people are all seriously threatened. Therefore, it is essential to investigate alternate techniques, including biodegradation, to degrade HDPE without generating hazardous byproducts. The aim of this study was to find and isolate HDPE-degrading bacteria from a landfill in Malaysia. To find any potential bacteria that might degrade HDPE, soil inoculum that was taken from the Jeram Sanitary landfill was cultured in Bushnell Haas (BH) broth with a single piece of HDPE as the only carbon source. As the culture turned turbid, this indicated that HDPE-degrading bacteria were present since they could consume HDPE plastic as a carbon source to feed their growth. Potential HDPE-degrading bacteria were isolated from the culture with soil inoculum, and the single isolate's HDPE-degrading activity was verified. 16S rRNA sequencing had successfully identified *Bacillus firmus*, *Bacillus pumilius/Bacillus safensis* and *Brevibacillus reuszeri* as the potential HDPE-degrading bacteria. This study had preliminarily identified HDPE-degrading bacteria from a landfill in Malaysia.

Keywords: high density polyethylene (HDPE), plastic-degrading bacteria, landfill

1-06

THE IMPACT OF ADDING RICE HUSK ASH TO THE CULTIVATION SUBSTRATE ON GROWTH AND FRUIT QUALITY OF MELON

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ABSTRACT

Cultivating the "Yangjiaomi" Melon variety on non-renewable peat is expensive and unsustainable. The rice husk ash (RHA) was mixed with a commercial finished cultivation substrate in different volumes, with the commercial substrate without RHA serving as the control group. The aim was to study the physical and chemical properties of the different substrates and their effect on melon growth, leaf chlorophyll content, photosynthetic gas exchange parameters, and fruit quality. The results showed that adding RHA to the commercial finished cultivation substrate improved the substrate's aeration and increased its pH and EC levels. It also effectively inhibited the number of microorganisms in the substrate. Furthermore, the right amount of RHA mixed matrix significantly promoted the growth of melon plants. Under T2 treatment, which had a volume ratio of 2:4 between RHA and the commercial finished cultivation substrate, the plant height of melon plants, root vitality, and root shoot ratio increased by 14.69%, 19.73%, and 23.08%, respectively. Additionally, the chlorophyll content, net photosynthetic rate, stomatal conductance, and transpiration rate of melon leaves increased significantly under T2 treatment. The transverse diameter, longitudinal diameter, single fruit weight, and yield per plant, were also significantly increased compared to the control group. The study found that mixing the right amount of RHA improved the physical and chemical properties of the cultivation matrix, significantly increased the photosynthesis ability of melon leaves, and improved the quality of melon fruit. Melons found to grow best with 2:4 rice husk ash to commercial finished cultivation substrate.

Keywords: rice husk ash, cultivation substrate, melon, growth, fruit quality

STUDY ON PREPARATION AND STORAGE CHARACTERISTICS OF PEANUT PROTEIN SAUSAGE BY HIGH MOISTURE EXTRUSION

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ABSTRACT

As living standards improve, the demand for protein among consumers continues to rise. And experts predict that it will be difficult to meet the needs of 9 billion people in 2050, as meat consumption will have doubled. Therefore, research into high-moisture plant proteins with meat fibres was imperative. Presently, the predominant product is low moisture textured plant protein, whose fibre content is significantly lower than that of high moisture textured plant protein, and which requires rehydration prior to use; it can partially replace animal protein as it is widely used in meat products, frozen foods, and snacks, etc. High moisture extrusion technology (moisture content greater than 40 percent), which could give plant protein a structure similar to animal muscle, was a new technology of recombination plant protein and one of the most promising food processing technologies with high efficiency, low consumption, and low cost. In this study, peanut protein was used as the primary raw material for high moisture extrusion textured peanut protein. The effect of sterilisation on peanut protein sausage was elucidated, and various sterilisation and storage methods were proposed for various applications. From the studies, peanut protein had increased the springiness of the sausage by 1.01% and 8.96% compared to plant-based sausage and meat-based sausage, respectively. Thus, this study suggest that a high-moisture textured peanut protein sausage product can be further developed as a benchmark for the extensive processing of peanut protein.

Keywords: high moisture extrusion, peanut protein, process optimization, storage characteristics, texture

1-08

EVALUATION OF ANTIDIABETIC ACTIVITY OF MIXTURES OF *Siraitia grosvenorii, Dimocarpus longan Lour.,* AND *Orthosiphon aristatus*

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ABSTRACT

The demand for new and affordable anti-diabetic alternatives has led to increased interest in natural products. In this study, we investigated the anti-diabetic and antioxidant properties *of Siraitia grosvenorii, Orthosiphon stamineus*, and *Dimocarpus longan* extracts, both individually and in mixtures. The α-amylase inhibitory activity was significant in the extracts of *S. grosvenorii* and *O. stamineus*, with half-maximum inhibitory concentrations of 9.5 ± 0.12 mg/ml and 5.45 ± 0.40 mg/ml, respectively. However, the mixture between the extracts showed higher α-amylase inhibition efficiency at around 10% higher than the individual extracts. The total flavonoid and phenolic content of *O. stamineus* was found to be more than 100 times higher than the other two extracts and the mixtures. The DPPH free radical scavenging activity of the extracts and their mixtures show that *O. stamineus* has the most significant inhibitory activity at 0.10 ±0.75mg/ml as compared to other extracts and mixtures. The mixture of *S. grosvenorii* and *O. stamineus* showed the most promising antioxidant and anti-diabetic activities among the mixtures. Our results suggest that plant mixtures could be a potential strategy for evaluating the anti-diabetic and antioxidant activities of natural extracts and improving their utilization.

Keywords: antidiabetic, *Siraitia grosvenorii*, *Dimocarpus longan* Lour., *Orthosiphon aristatus,* mixture

ANTIBACTERIAL ACTIVITY OF *Pleurotus ostreatus* EXTRACTS AGAINST CLINICALLY IMPORTANT BACTERIA

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ABSTRACT

The potential of pathogenic bacteria to acquire resistance against multiple antimicrobial agents has increased recently as a result of sporadic usage various antibiotics, which has resulted in the rise in antibiotic resistance. The need to seek alternative sources of antimicrobials has led to considering mushroom species. Oyster mushrooms (*Pleurotus ostreatus*) have received more interest in recent years due to their abundance of biologically active compounds with health benefits. The antibacterial abilities of the *P. ostreatus* extract against 7 clinically significant microorganisms, including 3 Gram positive and 4 Gram negative isolates, were examined in this study. The freshly harvested *P. ostreatus* fruiting bodies were dried and powdered followed by phytochemical extraction using methanol, ethyl acetate, and ethanol as solvents. All the three extracts showed the presence of most of the phytochemicals including steroids, terpenoids, phenols and tannins. An agar well diffusion test conducted to ascertain the antibacterial potential of *P. ostreatus* extracts against the tested bacterial isolates. The ethyl acetate of *P. ostreatus* extract showed considerable antibacterial activity particularly against *S. epidermidis, P. aeruginosa* and MRSA, which correlated well with the higher level of phytochemicals present in this extract compared to the methanol and ethanol extracts. Flavonoids and alkaloids present only in the ethyl acetate extracts could explain the higher level of antibacterial activity exhibited by this extract. In conclusion, *P. ostreatus* exhibited significant antibacterial activity against the seven bacterial isolates and has the potential to be developed as an antibacterial agent which is in line with the United Nation's SDG 3 for good health and well being.

Keywords: *Pleurotus ostreatus*, antibacterial activity, phytochemicals, ethyl acetate

1-10

IN SILICO DIRECTED EVOLUTION OF *Anabas testudineus* ANTICANCER PEPTIDE ATMP1

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ABSTRACT

Breast cancer is the most common cancer in women and has the highest mortality rate (15.5%) among cancers. A novel method for treating cancer using therapeutic peptides has shown promising results. Previous research has shown that the antimicrobial peptide AtMP1 extracted from *Anabas testudineus* mucus can bind to and induce the apoptosis process in breast cancer cells. The anticancer properties of the antimicrobial peptide could be improved by altering it. Bioinformatics analysis will be performed to predict and identify the biochemical properties, anticancer properties, and toxicity of the altered AtMP1 peptide analogue. Altered peptide AtMP6 with the highest prediction score (AntiCP score: 0.6; Charge: 1.5; Toxicity prediction: non-toxin) was synthesized and was analyzed with the Sulforhodamine B colorimetric (SRB) assay to determine cytotoxic effect on cancer and healthy human cell lines and have an IC50 value against the MDA-MB-231 cells of 38.76 ± 0.27 µg/ml and 9.69 ± 0.11 µg/ml at the 24-hour and 48-hour time points respectively. The peptide AtMP6 was subjected to the Annexin V assay to determine the cell apoptosis rate in cancer and healthy human cell lines, and it was discovered that at the 24-hour and 48-hour time points, respectively, 13.9% and 30.6% of cells had entered the early apoptosis stage, and 0.1% and 8.9% of cells had entered the late apoptosis stage. At the 48-hour mark, 0.9% of cells had progressed to the necrosis stage. As a result, AtMP6 has enhanced anticancer properties while remaining nontoxic to healthy human cells.

Keywords: antimicrobial peptide; anticancer peptide, *in silico* and directed evolution

1-11

SYNTHESIS AND CHARACTERIZATION OF STREPTOKINASE ENZYME AS THROMBOLYTIC AGENT USING *Haemolytic Streptococci*

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ABSTRACT

Streptokinase, the enzyme obtained from *Streptococcus* sp. is being used as an effective and inexpensive thrombolytic medication. The study was designed for the screening of streptococcal isolates that produce streptokinase and their molecular characterization. Out of seventeen clinical isolates, fifteen were confirmed as *Streptococcus* by conventional and 16S rRNA amplification. Haemolysin producing streptococci isolates were identified using blood agar. In thrombolytic assay, the highest specific activity of the crude and purified (47 kDa) enzymes was noted as 58.46 and 1591.66 IU mL^{-1} respectively. All the isolates exhibited the banding position at ~450bp and ~1300bp showed the existence of haemolysin *(hae*) and streptokinase (*skc)* genes respectively. The sequenced product was translated to amino acid sequences and the protein BLAST was showed that *skc* gene is similar to streptokinase of *Streptococcus dysgalactiae* subsp. *Equisimilis*. The maximum enzyme activity was found at the optimum pH 7.4 and optimum temperature 37 °C. Thus streptokinase enzyme showed higher efficiency to lyse the blood clots, it was considered to be better choice for thrombolytic therapy.

Keywords: streptokinase, *Streptococci*, PCR, haemolytic activity, thrombolytic agents.

1-12

IN SILICO STUDIES OF *Mollugo cerviana* AS POTENT ANTIPROLIFERATIVE AGENT AGAINST PROSTATE CANCER

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ABSTRACT

The second biggest cause of mortality after cardiovascular disease, cancer is a serious issue for global public health. Therefore, the purpose of this study was to find new natural chemicals in *Mollugo cerviana* (L.) Ser to treat prostate cancer. The GC-MS analysis for the chloroform extract of *Mollugo cerviana* (L.) Ser was performed in the Standard Non - Polar Column. A total of 47 compounds were found GCMS analysis. 2D structure of the isolated compound was predicted with the help of PUBCHEM database. The Biological activity of the predicted compound was analyzed using the PASS online server. Selection of Receptor is mainly focused on the Prostate cancer proteins 2AXA, reference protein FHM. By analyzing the docking score for all the protein molecules, it gives clear results that 3 compounds &1 reference compound shows the highest activity. The docking results shows that the target proteins has the best binding when it interacts with (2,2-dimethyl-3,5-diphenyl-2h-pyrrole 1-oxide).

Keywords: prostate cancer, *Mollugo cerviana*, antioxidants, anti-androgen, anti-inflammatory

1-13

IRISIN INHIBITS HIGH GLUCOSE-INDUCED ENDOTHELIAL-TO-MESENCHYMAL TRANSITION AND EXERTS A DOSE-DEPENDENT BIDIRECTIONAL EFFECT ON DIABETIC CARDIOMYOPATHY

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ABSTRACT

Emerging evidence indicates that irisin provides beneficial effects in diabetes. However, whether irisin influences the development of diabetic cardiomyopathy (DCM) remains unclear. Therefore, we investigated the potential role and mechanism of action of irisin in diabetes-induced myocardial dysfunction in mice. Type 1 diabetes was induced in mice by injecting streptozotocin, and the diabetic mice were administered recombinant r-irisin (low or high dose: 0.5 or 1.5 μg/g body weight/day, I.P.) or PBS for 16 weeks. Irisin treatment did not alter blood glucose levels in the diabetic mice. However, the results of echocardiographical and histopathological assays indicated that low-dose irisin treatment alleviated cardiac fibrosis and left ventricular function in the diabetic mice, whereas high-dose irisin failed to mitigate the ventricular function impairment and increased collagen deposition. The potential mechanism underlying the effect of low-dose irisin involved irisin-mediated inhibition of high glucose-induced endothelial-to-mesenchymal transition (EndMT); conversely, high-dose irisin treatment enhanced high glucose-induced MMP expression by stimulating MAPK (p38 and ERK) signaling and cardiac fibroblast proliferation and migration. Low-dose irisin alleviated DCM development by inhibiting high glucose-induced EndMT. By contrast, high-dose irisin disrupted normal MMP expression and induced cardiac fibroblast proliferation and migration, which results in excess collagen deposition. Thus, irisin can inhibit high glucose-induced EndMT and exert a dose-dependent bidirectional effect on DCM.

Keywords: diabetic cardiomyopathy, irisin, myocardial dysfunction.

1-14

IN SILICO PHARMACOLOGICAL PROFILING OF METHANOLIC EXTRACT OF *Chloroxylon swietenia* FOR PROSTATE CANCER

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ABSTRACT

Prostate cancer is the most common cancer in men and is one of the leading causes of cancer-related deaths worldwide. Prominent drugs for prostate cancer (e.g.: Bicalutamide,Cabazitaxel and Darolutamide) not only cause acute and long-term toxicity, but also develops drug resistance among patients. Our focus is mainly on phytochemicals which do not exhibit any cytotoxicity and have significant androgen receptor (AR) inhibition activity. Since the androgen receptor (AR) plays a crucial role in the growth of prostate cancer and has long been considered the cancer's primary therapeutic target. This study is aimed at the identification of potential anti-prostate phytochemicals in methanolic extract of *Chloroxylon swietenia*. The phytochemicals were identified by GC-MS analysis and their 3D structures were retrieved using PubChem and the 3D structure of AR was retrieved using Protein Data Bank (PDB). These phytochemicals were tested for their ADME in SwissADME.Protein-ligand interaction plays a central role in structure-based drug design, so the phytochemicals present in *Chloroxylon swietenia* were screened for their binding affinity to the androgen receptor using molecular docking. The three dimensional (3D) structure of AR was docked with 3D PubChem structures of phytochemicals using AM Dock. Further simulations were performed for understanding the binding interaction of phytochemicals with AR.

Keywords: phytochemicals, androgen receptor, PubChem, SwissADME, PDB, docking, simulation

1-15

THE DIAGNOSIS OF CARTILAGE INJURY IN KNEE OSTEOARTHRITIS BY MEDICAL IMAGING: CURRENT PRACTICE AND MOVING FORWARD

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ABSTRACT

Knee osteoarthritis (KOA) is a joint disease, affecting multiple tissues in the joint. The incidence of KOA is increasing and the onset age is getting younger. Early detection and intervention may delay osteoarthritis (OA) development and avoid total knee arthroplasty. In medical imaging, routine examinations such as digital radiology (DR) or magnetic resonance imaging (MRI) can be used to detect the morphological changes after the clinical signs of KOA. Even though proteomic, lipidomic, and metabolomic are some of the approaches that potentially be used to determine the potential "OA biomarkers", specific biomarker profiles for early detection and clinical decision-making for OA are yet to be identified. A new and credible method for the early detection for KOA is pressingly needed. Recent years, some research reported breakthroughs in the metabolic analysis on the human samples by matrix-assisted laser desorption/ionization mass spectrometry imaging (MALDI MSI), allowing the in-situ workflow detection of a large number of peptides, proteins and even FF or PTMs. If the relationship between the MRI-UTE technic and the credible biomarkers that confirmed by advanced metabolomics can be found, it might provide a way for early diagnosis of KOA. In this paper, current practice of diagnostic of KOA using medical imaging techniques are highlighted. The advantages, challenges, and how to improve the techniques to diagnose KOA in the early stage are discussed.

Keywords: knee osteoarthritis (KOA), cartilage injury, ultrashort time of echo MRI (UTE-MRI), matrix-assisted laser desorption ionization -mass spectrometry imaging (MALDI-MSI)

1-16

PREDICTIVE MODELING OF STROKE OCCURRENCE AMONG PATIENTS USING MACHINE LEARNING

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ABSTRACT

Stroke is a global public health concern with severe consequences. Early detection and accurate prediction of stroke occurrence are crucial for effective prevention and targeted interventions. This study proposes a machine learning-based approach to predict the likelihood of stroke among patients. A comprehensive dataset encompassing demographic, clinical, and lifestyle factors of a large patient cohort was employed. Variables such as age, gender, hypertension, diabetes, smoking status, BMI, and medical history were considered. Advanced machine learning algorithms, including logistic regression, decision trees, random forests, and support vector machines, were utilized to analyze the dataset and develop a predictive model. The results demonstrate that the machine learning-based approach achieved high predictive accuracy in identifying individuals at risk of stroke. The model exhibited excellent sensitivity and specificity, enabling effective stratification of patients based on their stroke likelihood. Additionally, the most influential features contributing to stroke prediction were identified, providing valuable insights into risk factors, and aiding clinical decision-making. Developing an accurate stroke prediction model using machine learning holds immense potential for proactive healthcare strategies and personalized patient care. Early identification of high-risk patients enables timely intervention and implementation of preventive measures, potentially reducing the burden of stroke-related complications. This study represents a significant advancement in leveraging machine learning techniques to enhance stroke risk assessment, leading to improved patient outcomes and optimized healthcare resource allocation.

Keywords: stroke prediction, machine learning, risk assessment, predictive modelling, healthcare interventions

1-17

THE INTEGRATION OF WASTEWATER TREATMENT AND BIOFUEL PRODUCTION USING *Scenedesmus SP.*

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ABSTRACT

Microalgae have drawn interest as a potential renewable source of biofuels due to their high biomass content, fast growth rates and high carbon dioxide utilization. However, microalgae cultivation using freshwater rises the concern on increasing the burden of freshwater demand. Meanwhile, developing countries are facing the challenges of increasing clean water demand and the inflating costs of wastewater treatment. This study aimed to use local domestic wastewater to cultivate microalgae, *Scenedesmus* sp. for biomass growth and removal of nitrogen and phosphorus. The result showed that *Scenedesmus* sp. cultivated in domestic wastewater had higher cell density and biomass concentration than those in conventional Bold's Basal medium. The percentages of 94.81%, 99.75% and 98.88% of total nitrogen, total phosphorus, and total ammonium respectively were simultaneously removed from the domestic wastewater. The protein and carbohydrate contents that extracted from *Scenedesmus* sp. cultivated in domestic wastewater were 30.18% and 17.63%, respectively, which similar to those obtained using Bold's Basal medium. Domestic wastewater can be used as medium source for the cultivation of *Scenedesmus* sp.to produce protein and carbohydrate for biofuel production.

Keywords: *Scenedesmus* sp., wastewater treatment, microalgae biomass, biofuel, energy production

1-18

GREEN SYNTHESIS AND CHARACTERIZATION OF COPPER OXIDE-ZINC OXIDE NANOCOMPOSITE FROM *Musa acuminata* FOR CYTOTOXIC STUDIES ON COLORECTAL CANCER CELLS (HCC2998)

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ABSTRACT

Green synthesis has become a popular alternative to replace chemical synthesis in nanotechnology because of its low cost and low toxicity. Synthesis of nanocomposite raised the attention of the researchers due to its synergistic effect which might enhance its effectiveness in anticancer effects to overcome multidrug resistance (MDR). In this study, the copper oxide-zinc oxide nanocomposite (CuO/ZnO NC) was green synthesized by using the crude extract from the Musa acuminata leaves with zinc nitrate hexahydrate and copper nitrate trihydrate as the precursors. Characterization of the CuO/ZnO NC was done via UV-Visible spectroscopy (UV-Vis) analysis with peak detected at 365 nm and bandgap energy of 3.43 eV. Next, the field emission scanning electron microscopy (FE-SEM) analysis showed agglomerated, irregular shape of NC with size ranging from 31.8 nm to 85.7 nm. X-ray diffraction (XRD) analysis depicted crystallite size of 24.78 nm for the synthesize NC which was in nanocrystalline with hexagonal wurtzite of ZnO and monoclinic of CuO. Further characterization was done via fourier transform infrared spectroscopy (FT-IR) analysis which showed the presence of functional groups including hydroxyl group, carbonyl group, amines, alkane, aromatic amine, Cu-O and Zn-O. Cytotoxic effect of CuO/ZnO NC was evaluated via MTT assay. The cytotoxic effect of CuO/ZnO NC towards the colorectal cancer cells (HCC2998) was dose dependent. The results showed a significant cell mortality at 100 µg/mL of CuO/ZnO NC with 45.79 % of cell death. The findings of the present study suggest the potential of CuO/ZnO NC to be utilized an anticancer agent.

Keywords: green syntheiszed, zinc oxide nanoparticles, cytotoxicity, anticancer, cell mortality

1-19

GREEN SUSTAINABLE INITIATIVE: A PERSPECTIVE FROM A AGRICULTURAL WASTE BYPRODUCT SUPPLEMENTATION FOR MILK VOLUME AND QUALITY ENHANCEMENT IN GOATS

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ABSTRACT

Dates pits (DP) are discarded as agricultural waste byproducts, available in abundance yearly and used in animals' supplementation. Managing these waste byproducts is essential to ensure environmental serenity as DP natural degradation takes long duration due to having hard outer layer. In addition, the ruminant milk production in Malaysia and globally is substantially low. Hence, this research evaluated the effect of Ajwa and Mariami DP powder (DPP) cultivars on milk yield and quality of Saanen-Boer crossed bred goats for a 12-week trial. Analyses include milk yield, crude protein, fat, lactose, total phenolic content (TPC) and fatty acid (FA) profile determination. Chemometrics was applied for a better understanding of managing multiple parameters. The goats (n=24) were grouped and goats fed with normal daily rations, (pellet, Napier leaves and rice hay) served as control. DPP daily rations were 10g and 20g Ajwa DPP; Plus 10g, 20g and 30g Mariami DPP, respectively. Milk yield was significantly (p<0.05) affected by DPP cultivars and doses (A20 and M30) with average milk yield of 59.52% and 28.24%, respectively compared to control. Feeding with A20 significantly (p<0.01) increased milk yield to 95.38% at month-3. Then, 3D PCA of A20 and M30 focusing on combination of milk yield, crude protein, fat and TPC was obviously clustered. Milk FA profiles showed that FA was significantly (p<0.05) affected by cultivars and dose. PCA distinguished the FA profile of Ajwa and Mariami DPP groups respectively to the control into clusters. DPP, an agricultural waste byproduct when applied as supplements in Saanen-Boer crossed bred goats farmed in Malaysia enhances the milk yield and quality.

Keywords: Agricultural waste byproduct, date pit powder, green sustainable initiative, milk volume, milk quality.

1-20

HSP70 AS A BIOMARKER: AN EXCELLENT TOOL IN UNDERSTANDING ADAPTATION STRATEGIES OF ANTARCTIC LIFE TO ADVERSE CLIMATE

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ABSTRACT

Heat shock proteins 70 (Hsp70) are potential thermal stress markers as they are involved in cellular protection against heat shock. The Hsp70s are present in several variants with each containing its peculiar importance due to their specific functions such as cell protection during elevated thermal stress. The present investigation was done to evaluate the gene expression profiles of all Hsp70 genes in Glaciozyma antarctica PI12 during thermal stress. In this study, we exposed G. antarctica cells to a realistic heat wave to understand the impacts of the extraordinary, unprecedented heat waves that hit Antarctica at nearly 40 °C above average in 2022. The experiment was carried out in 8 days where cells were exposed gradually at 0, 2, 4, 8, 12, 16, 20, 25 and 30°C. The gene expression profiles were obtained during the simulated heat wave along with non-stressed control treatments by real-time PCR. Among all 5 Hsp70 genes in G. antarctica, the expression in gahsp70-1, gahsp70-5 and gahsp70-6 were significantly upregulated 5 to 8 folds after being treated with a heat shock at 4 °C. Gene-expression patterns at 20 °C and 30 °C also showed induction with the highest at 3.6 folds and 5.8 folds, respectively. These results indicate that the expression of Hsp70 genes in G. antarctica was inducible under thermal stress, indicating their importance in cells during the thermal challenge. These results conclude that the gene expression patterns of Hsp70 during thermal stress contribute vital information on thermal adaptation in the Antarctic marine ecosystem under climate stress. All the findings will provide a better understanding of the impacts of global warming on Antarctic organisms and further explore the suitability of Hsp70 response in G. antarctica as biomarkers to measure thermal impacts in the scenario of global warming.

Keywords: biomarker, global warming, Antarctica, heat shock protein, psychrophilic yeast

1-21

SIDEROPHILIC BACTERIA AS A POTENTIAL BIOFERTILIZER ISOLATED FROM THE RHIZOSPHERE OF *Paris polyphylla var. Yunnanensis*

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ABSTRACT

The increasing demands for crop production have become a great challenge while people also realizing the significance of reductions in synthetic chemical fertilizer use. Plant growth-promoting rhizobacteria (PGPR) are proven biofertilizers for increasing crop yields by promoting plant growth via various direct or indirect mechanisms. Siderophilic bacteria, as an important type of PGPR, can secrete siderophores to chelate unusable Fe3+ in the soil for plant growth. Siderophilic bacteria have been shown to play vital roles in preventing diseases and enhancing the growth of plants. *Paris polyphylla var. yunnanensis* (PPVY) is an important traditional Chinese herb. However, reports about its siderophilic bacteria are still rare. This study firstly isolated siderophilic bacteria from the rhizosphere soil of PPVY, identified by morphological and physio-biochemical characteristics as well as 16S rRNA sequence analysis. The dominant genus in the rhizobacteria of PPVY was *Bacillus*. Among 22 isolates, 21 isolates produced siderophores. The relative amount of siderophores ranged from 4 to 41%. Intriguingly, 16 strains could produce substances that have inhibitory activity against *Candida albicans* only in an iron-limited medium (SA medium). The effects of different concentrations of Fe^{3+} and three types of synthetic chemical fertilizers on AS19 growth, siderophore production, and swimming motility were first evaluated from multiple aspects. The study also found that the cell-free supernatant (CFS) with high siderophore units (SUs) of AS19 strain could significantly promote the germination of pepper and maize seeds and the development of the shoots and leaves of *Gynura divaricata* (Linn.). The bacterial solution of AS19 strain could significantly promote the elongation of the roots of *G. divaricata* (Linn.). Due to its combined traits promoting plant growth and seed germination, the AS19 has the potential to become a bioinoculant. This study will broaden the application prospects of the siderophilic bacteria-AS19 as biofertilizers for future sustainable agriculture.

Keywords: *Paris polyphylla* var. *yunnanensis* (PPVY), biofertilizers, iron, plant growth promoting rhizobacteria (PGPR), siderophore

1-22

IN VITRO ANTIOXIDANT, AND ANTI-INFLAMMATORY ACTIVITY OF *Syzygium cumini* SEED EXTRACT

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ABSTRACT

Syzygium cumini (Jamun) is a fruit that is rich in nutrients and has long been utilized in traditional medicine. Due to the presence of a high concentration of phytochemical components, this seed has been used to produce nutraceuticals. Recently, it has been utilized to treat a variety of metabolic conditions such obesity, hyperlipidemia, and diabetes. In this work, a seed extract was made, and the chemicals in the seed extract were assessed by GC-MS analysis. The functional group contained in the seed extract was analyzed using FT-IR. Preliminary phytochemical study revealed the high phenolic content concentration. 1.5 mg/ml of seed extract provided 89.43% protection in terms of anti-inflammatory activity. The *Syzygium cumini* seed extract's antioxidant activity exhibited 73% antioxidant activity. The isolation of a compound from seed extract that might be employed as a possible therapeutic candidate to treat a variety of metabolic illnesses requires additional research.

Keywords: anti-inflammatory, antioxidant activities, FT-IR analysis GC-MS analysis and *Syzygium cumini* seeds

1-23

DEVELOPMENT OF P(3HB-CO-3HHX)/CLAYTONE NANOCOMPOSITE FILMS FOR FOOD PACKAGING APPLICATIONS

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ABSTRACT

Concerns over non-biodegradable petrochemical-based synthetic polymers used in food packaging, as well as customer demand for high-quality food items, have sparked interest in developing biodegradable polymers for food packaging. Polyhydroxyalkanoate (PHA) is considered as one of the promising biopolymers due to its biodegradability and mechanical properties. P(3HB-co-3HHx) copolymer is a sub-class of PHA family that is synthesized by bacteria from various renewable biomass. Recently, with the advent of the nanotechnology field, the development of polymer-based nanobiocomposites has become a worldwide research interest because they exhibit dramatic improvement in properties through incorporation of only small amounts of nanosized filler into the polymer matrix. However, limited reports available on the development of P(3HB-co-3HHx)/Claytone nancomposites for food packaging application. Therefore, the present study was focused on the characterization of P(3HB-co-3HHx) copolymer with different percentage of Claytone (5 wt%) and (10wt%) using solvent casting method. FTIR analysis revealed the presence of Claytone into the P(3HB-co-3HHx). Pronounced improvement in the modulus of elasticity were achieved in the P(3HB-co-3HHx)/Claytone nanocomposites as the percentage of Claytone increases. The transparency of P(3HB-co-3HHx)/Claytone nanocomposites increased as compared to pure polymers. P(3HB-co-3HHx)/Claytone nanocomposites exhibited mild antibacterial activity against Staphylococcus aureus as well as reduced swelling capacity and solubility as the percentage of Claytone increases. P(3HB-co-3HHx)/Claytone nanocomposite may create new prospects in the food packaging industry as environmentally friendly materials (green nanocomposites) that is integrated into society and promotes a healthy and sustainable lifestyle.

Keywords: biopolymers, poly(3-hydroxybutyrate-co-3-hydroxyhexanoate) [P(3HB-co-3HHx)], nanocomposites, claytone, food packaging.

1-24

EXTRACELLULAR BIOSYNTHESIS OF SILVER NANOPARTICLES FROM MARINE PIGMENTED BACTERIA *Bacillus vietnamensis* AND IT'S ANTIBACTERIAL ACTIVITY

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ABSTRACT

In recent years extensive research has been conducted on green synthesis in order to develop low-cost and environmentally friendly methods for the production of nanoparticles. The present study focuses on the biosynthesis of silver nanoparticles using the culture filtrate of *Bacillus vietnamensis*. The cell-free culture supernatant was mixed with the AgNO3 solution and the mixture was shaken in an orbital shaker at 37 °C for 24 hours. The maximum absorbances of these nanoparticles in UV-Vis spectroscopy at 381 nm and FTIR revealed the bands of specific functional groups from 4000 cm-1 to 400 cm-1. The XRD pattern confirmed the nature of AgNPs as crystalline planes of the face-centered cubic structure of metallic nanoparticles and EDAX analysis confirmed the elemental composition of AgNPs with 68.89% Ag. FESEM images showed that the generated nanoparticles were spherical in shape and size 5 – 70 nm. The AgNPs showed antibacterial activity against *E. coli*, *Bacillus subtilis*, *Pseudomonas aeruginosa*, *Staphylococcus aureus* and *Klebsiella pneumoniae*. According to the findings, biosynthesized AgNPs were effective against the pathogens tested and emphasize their antimicrobial applications.

Keywords: bacterial pigments, AgNPs, UV, FTIR, XRD, EDAX, FESEM, antibacterial activity

1-25

DEVELOPMENT AND EVALUATION OF TOPICAL ZINC OXIDE NANOGEL FORMULATIONS USING *Dendrobium anosmum* AND ITS EFFECT ON ACNE VULGARIS

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ABSTRACT

Nanotechnology is an interdisciplinary field involving the design, synthesis, characterization, and application of materials in the nanoscale dimension. The current study was undertaken to appraise the biogenic synthesis of zinc oxide nanoparticles utilizing *Dendrobium anosmum* as a reducing agent for skin care applications and compare with chemogenic zinc oxide nanoparticles. The *Dendrobium anosmum* leaf was screened for the presence of secondary metabolites using the aqueous extraction technique. The Folin-Ciocalteu and aluminium chloride methods were used to evaluate the total polyphenols and total flavonoid content, respectively. A comparison between the plant extract and extracted powder was determined using Fourier Transformed Infrared Spectroscopy (FTIR). The morphology and structural properties of synthesized chemogenic and biogenic zinc oxide nanoparticles were characterized using the ultraviolet–visible spectroscopy (UV-Vis), Field emission scanning electron microscopy (FE-SEM), X-ray crystallography (XRD) and Fourier Transformed Infrared Spectroscopy (FTIR). The formulation and physicochemical properties of the hybrid skin care nanogel incorporating the synthesized nanoparticles were performed using appropriate techniques. An agar well diffusion method and minimum inhibitory concentration (MIC) was carried out to determine its antibacterial and anti-acne efficacy. The secondary metabolites observed in *Dendrobium anosmum* were carotenoids, coumarin, flavonoids, phenols, saponins, steroids, tannins and terpenoids. Total phenolic and flavonoid content were found to be 15.125 ± 0.18 mg GAE/g dry matter and 13.101 ± 0.13 mg QE/g dry matter, respectively. The biogenic zinc oxide

nanoparticles were observed with a high phase purity with particle sizes ranging from 19 nm to 30 nm. Both chemogenic and biogenic ZnO NPs possessed higher antibacterial activity towards Gram-positive than Gram-negative bacteria. The MIC of zinc oxide nanoparticles supports the observation obtained in the antibacterial activity. By incorporating zinc oxide nanoparticles with nanogel polymers, the antibacterial efficacy was enhanced. A high anti-acne efficacy was exhibited by both biogenic zinc oxide nanoparticles and nanogel hybrid incorporating biogenic zinc oxide nanoparticles against *Cutibacterium acne*. This study revealed the potential of green synthesized zinc oxide nanoparticles from *Dendrobium anosmum* possessing promising therapeutic effects towards acne vulgaris.

Keywords: *Acne vulgaris*, biogenic synthesis, *Cutibacterium acne*, *Dendrobium anosmum*, nanoparticles

1-26

COMPARISION OF MICROWAVE-ASSISTED AND CONVENTIONAL HEATING METHODS ON THE FABRICATION AND CHARACTERIZATION OF ZINC OXIDE NANOPARTICLES (ZnO NPs) DERIVED FROM POMEGRANATE (*Punica granatum*) HUSK EXTRACT.

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ABSTRACT

The green synthesis approach to synthesizing nanoparticles within the size of 100 nm has drawn great attention towards material scientists due to its advantages, such as eco-friendliness and cost-effectiveness. Studies have proven that various synthesis methods to synthesize nanoparticles may affect its morphologies such as sizes and shape of the nanoparticles and different morphologies of the synthesized nanoparticles may affect their chemical and physical properties. In this study, zinc oxide nanoparticles (ZnO NPs) have been green synthesized using aqueous pomegranate husk extract. Pomegranate husk is rich in secondary metabolites, especially polyphenols and flavonoids. Both microwave-assisted and conventional heating methods were applied in the green synthesis of ZnO NPs. Characterizations of ZnO NPs were carried out using UV-VIS, FTIR, SEM, EDX, and XRD. For UV-Vis characterization, both methods of synthesizing showed absorption peaks at 371 nm and 370 nm, which confirmed the formation of ZnO NPs. Besides, FTIR peaks at 473 cm-1 and 475 cm-1 indicated ZnO bending vibrations. The size of microwave-assisted synthesis of ZnO NPs falls within 41 nm-57 nm in SEM characterization, whereas conventional heating methods are within 50 nm-72 nm. EDX characterization revealed only Zn and O were present in ZnO NPs synthesized using both methods, indicating high purity of the NPs. Furthermore, the average size of ZnO NPs synthesized using microwave-assisted methods is smaller than conventional heating methods using XRD characterization, which are at 22.38 nm and 20.27 nm, which fits the outcome of SEM characterization.

Keywords: zinc oxide nanoparticles, green synthesis, microwave-assisted, conventional heating method, characterizations

1-27

A COMPARATIVE STUDY TO ASSESS THE EFFECTIVENESS OF NEUROPLASTICITY BASED BRAIN GYM EXERCISES VERSUS AEROBIC EXERCISES ON COGNITION AND STRESS AMONG GERIATRICS

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ABSTRACT

Decline of cognitive function among geriatrics is a part of the aging process resulting in long-term memory problems. It is often regarded as a stressor that causes stress and is perceived as an adverse threat. Brain gym exercises can improve memory and reduce emotional stress. Brain gym exercise improves the neuroplasticity of not only young adults but also geriatrics and thereby it plays a crucial role in boosting cognition and reducing stress. Hence it influences the health care and well-being of the geriatric population. The aim of the study was to compare the effectiveness of neuroplasticity-based brain gym exercises versus aerobic exercises on cognition and stress among geriatrics. In this experimental study, 30 participants were divided into two groups namely Group A and B. Group A performed neuroplasticity-based brain gym exercises, and Group B was given aerobic exercises for a duration of 45 minutes per day for five days per week for 4 weeks. The outcome measures used were Mini-Mental State Examination & Depression Anxiety Stress Scale. The result showed that Group A showed more significant improvement than Group B at p-value ($p \leq 0.001$). *Conclusion:* Brain gym exercises had a significant impact on cognition and stress. There was also a correlation existing between the two domains, as when stress gets reduced, it paved the way for increasing cognition. Thus the study concluded that brain gym exercise improves cognition and reduces stress among geriatrics effectively.

Keywords: neuroplasticity, brain gym, cognition, stress, aerobics, mental health, geriatrics

1-28

EFFECT OF BLOOD FLOW RESTRICTION TRAINING WITH LOW LOAD RESISTANCE EXERCISE ON SKELETAL MUSCLE MASS AND HAND GRIP STRENGTH AMONG INDIVIDUALS WITH SARCOPENIA

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ABSTRACT

Sarcopenia is caused by a complex health risk and interrelated set of pathophysiological processes. It is associated with a low-inflammatory state and involves not only muscle tissue loss and muscle contractile failure, but also geriatric health and life. The objective of the study is to find out the effect of blood flow restriction with low load resistance training on skeletal muscle mass and hand grip strength. A quantitative experimental study was designed, and the purposive sampling method was adopted in this study. 30 subjects that fulfilled the inclusion and exclusion criteria were selected for the study and were divided into two groups. Group A — receives blood flow restriction with low load resistance training, and Group B— receives resistance training. Outcomes were measured using skeletal muscle mass formula for appendicular skeletal muscle mass and hand grip strength was measured using spring handheld dynamometer, respectively. The statistical significance found that the p value (0.005) of Group A to be more significant than Group B, which proves that during blood flow restriction with low-load resistance training, there are more physiological benefits in cell proliferation and increased muscle mass in sarcopenic subjects. Blood flow restriction with low load exercises is a novel therapeutic approach proven to be effective in sustainable development of skeletal mass, endocrine and metabolic functions in subjects with sarcopenia.

Keywords: blood flow restriction, low load resistance training, high resistance exercise, skeletal muscle mass, health risk

1-29

DEVELOPMENT AND CHARACTERIZATION OF NANO-FOOD PACKAGING MATERIAL USING BIOGENIC ZINC OXIDE NANOPARTICLES (ZNO NPS) FROM WASTE BANANALEAVES (*Musa acuminata*): TOWARDS A SUSTAINABLE CIRCULAR GREEN ECONOMY

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ABSTRACT

Banana is a fruit grown mainly in tropical countries of the world and the second most-produced fruit after citrus in Malaysia. An average of 530,000 metric tons of bananas are produced per year in Malaysia which generates wastes that are discarded after harvesting. As a major by-product, about 480 kg of banana leaves are generated for every ton which contributes to environmental problems. The constant pressure for healthier foods with longer shelf life has been increasing day by day. Integration of nanotechnology with food packaging shows promising promotion in foods' shelf life by introducing novel nanofilms with superior antibacterial properties. The Circular-Green Economy improves resource efficiency and reduces environmental impact by designing products in a more recyclable way, adopting efficient technology, and turning waste into a resource. This project aims to recycle the waste banana leaves to synthesize ZnO NPs and integrate them into nano-food packaging. Bio-nanocomposites were developed using chitosan incorporated with biogenic ZnO NP from waste banana leaves through a solvent casting method. The size, shape, morphological structure, and stability of the resultant biogenic ZnO NP were investigated using Ultraviolet-Visible Spectroscopy (UV-VIS), Fourier-Transform Infrared Spectroscopy (FTIR), X-Ray Diffraction (XRD), and Scanning Electron Microscope (SEM). The antibacterial activity was analysed using the Disk Diffusion method against the food-borne pathogens Staphylococcus aureus and Salmonella typhimurium. The structure and properties of the nano-food packaging films were evaluated using Scanning Electron Microscopy (SEM), tensile strength, film moisture, film solubility, and water-holding capacity. The film moisture, film solubility, and water-holding capacity were enhanced however, the tensile grip was reduced. Through this project, the valorization of agrowaste (*M. acuminata*) leaves as potential raw material in developing active nano-food packaging film was successfully carried out. This would help agrowastes to be reused, recycled, or recovered to facilitate sustainable development thus promoting the application of

a circular green economy concept set by Malaysia to achieve a 40% recycling rate in 2025 and reduce greenhouse gas emissions by 45% in 2030.

Keywords: Agro waste, (*Musa acuminata*) leaves, biogenic ZnO NP, nano-food packaging films, circular economy

1-30

EXTRACTION, PURIFICATION AND CHARACTERISATION OF PUMPKIN SEED OIL IN HYPOGLYCAEMIC EFFECT OF DIABETES

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ABSTRACT

Pumpkin seed is widely considered to have active hypoglycaemic properties. Based on previous evidences, fruit pulp is reported to have anti-diabetic effect. The hypoglycaemic effect and potential mechanism of pumpkin seed oil in type II Diabetes mellitus (T2DM) was investigated in this study. The oil extracted from the pumpkin seeds have been distinguished as good nutritional vegetable oil. This study aimed to extract oil from pumpkin seed by soxhelt method using ethanol as a solvent. After the extraction process, the pumpkin seed oil is purified based on Bain-Marie method of purification. The analysis of purified essential oil were performed with GCMS, FTIR and UV spectrometer. The acquired high affinity compounds were docked and the accurate high affinity performing compound is synthesised. At last, it is performed with several required in-vitro studies like alpha amylase assay, beta amylase assay, glucosidase enzyme inhibition as a collection of databases.

Keywords: pumpkin seed oil, GCMS, FTIR, fatty acids, solvent extraction

Track 2: Information Technology

Green technology and sustainability are becoming increasingly important considerations in the IT industry. As technology continues to advance, so too does the amount of energy required to power it, which can have a significant impact on the environment. To mitigate this impact, companies are increasingly turning to renewable energy sources and energy-efficient technologies to power their data centres and other IT infrastructure. Additionally, companies are looking at ways to improve the sustainability of their manufacturing practices, by reducing waste and adopting more efficient production processes. By embracing these green technologies and sustainable practices, the IT industry can reduce its carbon footprint and become a more responsible and environmentally friendly sector. Furthermore, such practices can also result in cost savings and improved efficiency, making them not only environmentally beneficial but also economically advantageous. In this track, we will provide valuable insights into the latest trends and innovations in green tech and sustainability for the IT industry.

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A SYSTEMATIC LITERATURE REVIEW OF AI-GUIDED EXTENDED REALITY FOR SUSTAINABLE AND IMMERSIVE GEN Z DIGITAL TOURISM EXPERIENCES

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ABSTRACT

This systematic literature review explores the influence of AI-powered virtual assistants in influencing green and sustainable tourist experiences in the world of extended reality. It dives into the prospects of constructing immersive, personalized, and educational travel experiences utilizing eco-friendly technology, with a focus on the application of AI in XR. The study is based on peer-reviewed literature and delves deeply into tourists' preferences, concerns, and expectations about eco-conscious AI-powered virtual assistance. Natural language processing, image recognition, recommendation systems, geographical data, and cultural-historical awareness are all essential factors in the development of XR Assistants, all of which are supported by green technology. According to the review, AI-powered virtual assistants in XR tourism improve tourist engagement, contentment, and loyalty while pushing for sustainable practices. It emphasizes the need of catering to tourist interests and concerns about these green tech applications. The academic contribution is in developing frameworks to understand the influence of AI-assisted assistants on sustainable tourism, using TAM and UTAUT model. In practice, it enhances customer experience and resource management while boosting green tourism. For seamless, appealing XR experiences for tourists, emphasizes collaboration among AI developers, tourism stakeholders, and destination managers. Finally, the societal contribution highlights the potential of AI-assisted assistants in improving accessibility, cultural understanding, and safety, and supporting sustainable tourist practices.

Keywords: green tourism, virtual assistance,Artificial Intelligence,image recognition,natural language

STAKEHOLDER ENGAGEMENT IN SUSTAINABLE PROJECTS: STUDY AT INDIA TEXTILE AND APPAREL INDUSTRY

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ABSTRACT

Sustainability is becoming an increasingly important aspect of India's sustainable textile and apparel industry. The industry has been grappling with issues of waste, pollution, and resource depletion for many years, and there is now a growing recognition that these issues must be addressed if the industry is to remain viable in the long term. Project management principles can be applied to effectively address sustainability issues in the textile and apparel industry. Project management involves the planning, organizing, and executing of a project to achieve specific goals and objectives. Project management can be used to develop and implement strategies that will reduce waste, increase efficiency, and promote sustainability. One of the key factors that majorly influences sustainability projects is stakeholder engagement. Stakeholder engagement plays a huge role in ensuring clear sustainability goals and objectives, conducting better sustainability assessments, and developing better sustainability strategies. This research in progress aims to examine how stakeholder engagement can be effectively leveraged to achieve sustainability goals. To propose strategies that could be implemented to promote best practices in India's textile and apparel industry that enhance labor well-being and promote ethical conduct. This research follows empirical data from targeted stakeholders to understand the current practices and future strategies. The findings provide new insights and knowledge on sustainability practices and stakeholder engagement strategies that could fit in sustainability projects for a higher success rate.

Keywords: sustainability, stakeholder engagement, project management, practices, strategies

2-03

QUALITY RISK MANAGEMENT (QRM) TOOLS TO MINIMIZE THE RISK OF CONTAMINATION IN THE MALAYSIA PHARMACEUTICAL INDUSTRY

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ABSTRACT

The pharmaceutical industry in Malaysia has seen steady growth for a decade and has been identified as a key growth area. Despite being a highly regulated industry, the pharmaceutical industry is no stranger to the challenges of contamination risk in the cleanroom area for product manufacturing. The measures to prevent cross-contamination should be commensurate with the risks. Quality Risk Management principles should be used to assess and control the risks. Quality risk management is a process that supports science-based and practical decisions when integrated into quality systems. QRM is an overall and continuing process of minimizing risks to product quality throughout its life cycle in order to optimize its benefit and balance the risk. It is a systematic process for the evaluation, control, communication, and review of risks to the quality of the medicinal product. The purpose of this research in progress is to review existing Quality Risk Management (QRM) tools in minimizing risks of contamination. To further examine the best stage of the Project Management lifecycle to conduct risk assessments. The empirical data will be collected from people in Malaysian pharmaceutical organizations, particularly in the prescription medicines/poison category. These pharmaceutical organizations are engaged in the production of generic drugs, traditional medicines, and herbal supplements as well as contract manufacturing for foreign multinational corporations (MNCs). The findings could help practitioners in incorporating best practices in adopting QRM tools that could aid pharmaceuticals in promoting cost and time effective. To provide new insights into QRM tools, and contamination scenarios in Malaysia Pharmaceutical Industry for better strategies.

Keywords: Quality Risk Management (QRM) tools, contamination, Pharmaceutical Industry, strategies

DECISION-MAKING STYLE OF PROJECT MANAGERS IN THE KLANG VALLEY CONSTRUCTION INDUSTRY

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ABSTRACT

In recent years, the importance of decision-making in construction work has increased. This is due to the requirement to enhance project performance and increase the project success rate. Developed countries are not only heavily influenced by the various risks and uncertainties that underlie decisions made at every stage of a project. Specifically in the construction industry, project managers' decision-making is critically important in improving project performance and increasing the project success factor. Thus, decisions made by them mainly influence project trade-offs that constantly reduce cost and time while following project scope. This study examines a project manager's decision-making style, discusses the factors that influence the decision-making process, and how those factors impact overall project performance in construction organizations in Klang Valley, Malaysia. With the usage of the quantitative method, a survey questionnaire that distributed to project managers and project team members to assess the above-mentioned factors or variables. The results help organizations to recognize the importance of decision-making style and promote the introduction of standardization in the decision-making process in the construction industry.

Keywords: decision-making style, project managers, project performance, construction industry

THE AWARENESS OF PROJECT MANAGEMENT KNOWLEDGE AMONG CONSTRUCTION PROJECT MANAGERS IN KLANG VALLEY MALAYSIA

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ABSTRACT

The construction industry is the main industry driving the development of Malaysia. Malaysia's Construction industry recorded a positive growth of 7.4% in 2016, but a number of ongoing issues such as delays, waste, cost overruns, and disagreements hamper development. As a result, contractor mistakes cause project managers (PMs) to fail to complete construction projects. Although there are regulations regarding the training and education of PMs, their effectiveness has been repeatedly criticized. Ultimately, the main drawback was found to be the lack of a reference framework for project management knowledge skills for PMs. Consequently, the research's two objectives are to build a generic project management knowledge competency model for PM: (1) to understand project management knowledge that is critically important for construction project managers in Klang Valley Malaysia and (2) to examine whether there is any implementation of project management knowledge among construction project managers inside the industry and their awareness on a project management application. The techniques of research were chosen by employing quantitative methods. Questionnaire surveys were sent to developers, contractors, and consultants throughout Malaysia's Klang Valley to analyze and validate the instruments. According to the critical quantitative analysis results, construction project managers need a wide range of general technical competencies further divided into numerous tiers. The identified technical competency for Malaysia's construction project managers is thought to be exhaustive and holistic in identifying the appropriate project management knowledge application and skills and bring about various benefits for technically competent Malaysian project managers. The findings of this study will provide insights into the current scenario in Malaysia's construction projects, the overall awareness and knowledge of project managers, and project management applications.

Keywords: Awareness, Project Manager, Project Management Knowledge Areas

2-06

ROLES OF PMO IN TRANSFORMATION: STUDY OF OIL & GAS INDUSTRY IN MALAYSIA

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ABSTRACT

The understanding of PMO Roles is making a debut in the Project Management area, however, full comprehension and implementation still lacking in many areas. A number of studies have showcased their interest and have addressed the failures of recognition are probable in relation to the rise in the number of concurrent projects in established companies, which increased project management complexity while competing and depleting organizational resources at the same time. However, The Project Management Office (PMO), in addition to offering support in many other ways, was regarded as one of the most crucial approaches in helping the concurrent numerous projects fulfill their goals. As globalization became an ensured quest by many organizations, the idea of transformation materialized in this century. The transformation has become the latest trend for many businesses through its cultural, organizational, processes, and integration changes. Consequently, this study is built from these ground findings and has employed qualitative research methodology to secure a profound meaning and observation in understanding PMO Roles and their relation in Transformation. The findings of this research suggest that PMOs in Oil & Gas industry enhance their employability selling points by taking up more progressive activities and projects to grasp more nuances of recognition. PMO to continue its course in chasing more strategic roles upward in the chain of the organization to support more transformational activities in the organization. Reformists in projecting the relevant Project Management skills, practices, and processes to not limit its involvement in strategic planning but to revolutionize the entire organization. The results not only benefited Oil and Gas organizations and it they could be used for other industries with PMO in enhancing PMO roles as well as the transformation process in the organization.

Keywords: Project Management Office, Project Management Roles, Transformation, Oil and gas industry

2-07

AIOT BASED INTELLIGENT WASTE CLASSIFICATION FOR SOLID WASTE MANAGEMENT TO ACHIEVE

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ABSTRACT

The 3Rs initiative aims to promote the 3Rs which includes reduce, reuse and recycle globally so as to build a sound-material-cycle society through the effective use of resources and materials. In this proposed work, the waste management process by raising recycling awareness among citizens to achieve the 3Rs is believed to reduce greenhouse gas emissions in waste disposal or new product generation. The development of a system that addresses several Sustainable Development Goals by promoting the development of efficient and sustainable waste management systems in urban areas and next improving the recycling and resource recovery rates of solid waste to reduce the amount of waste generated and minimize environmental impact and finally reducing greenhouse gas emissions associated with the production and disposal of waste is initiated. In addition to that, Circular Economy and Zero Waste concepts will also be integrated into the proposed system as processors for waste collection and classification, aiming to eliminate waste and pollution. Both concepts go beyond the 3Rs by promoting the design of products and materials with recycling and reuse in mind from the beginning of the product life cycle, creating closed-loop systems where waste is treated as a valuable resource, and promoting innovative recycling technologies to recover more resources from waste streams. Therefore, this system provides waste classification using deep learning and IoT techniques to classify and collect waste by categories, with the collection data stored in a real-time database.

Keywords: 3R,deep learning, IOT,green technology,waste management

2-08

IOT OKU SMART PARKING

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ABSTRACT

OKU are people referred with any restriction or lack of ability to perform an activity in the manner or within the range considered normal for a human being. The proposed work is designed for support OKU Smart Parking. In the current society, especially in Malaysia, OKU grant some privileges and benefits, such as OKU toilet, OKU sidewalk, OKU public vehicle seat priority, etc. In Malaysia, although OKU parking can be seen everywhere, but there are abuses of OKU parking, such as random parking and fake OKU. The proposed project can authorize the OKU card holder to prove the identity for parking. The function of this system is to help verify the identity of the OKU, ensure the OKU's special parking privileges, and to establish the parking card using RFID technology. The tag stand is able to identify wrong identity and alert the security in case of abuser. This proposed system can help to save the time and energy of each OKU besides giving more care, understanding, and building a better society.

Keywords: RFID,deep learning, IOT,disabilities, smart parking

2-09

PROMOTING ENVIRONMENTAL AWARENESS AMONG CHILDREN THROUGH GAMIFICATION : AN OVERVIEW

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ABSTRACT

Engaging children in playful environmental activities proves to be an effective means of imparting them with the sense of responsibility towards conserving and safeguarding to the planet. This paper highlighted the potential of gamification as a powerful tool for promoting green sustainability among children. Gamification, which involves incorporating game design elements in non-game contexts, has gained recognition in the fields of sustainability and education (Deterding et al, 2011). By leveraging gamification techniques, such as interactive challenges, rewards, and progress tracking, educators and researchers can create engaging and immersive experiences that instill eco-consciousness in children. To effectively promote green sustainability among children through gamification, it is crucial to explore a variety of implementation strategies and leverage the wealth of available serious games and gamified interventions. by harnessing the power of gamification, we can create innovative and engaging experiences that inspire children to become responsible stewards of the environment. It is through these gamified interventions that we can empower the next generation with the knowledge and motivation needed to build a sustainable future for our planet. This paper also aims to review several gamification projects designed to cultivate environmental awareness among children.

Keywords: children computer interaction, gamification, environmental awareness

2-10

PREDICT STOCK PRICE USING DATA MINING TECHNIQUES

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ABSTRACT

The stock market, for a long time, has been known as a complicated yet captivating system. It is a mainstream investment platform for both beginners and financially savvy people to grow and hold their assets. While it still remains a good way to earn profit, the stock market is often considered as one of the risky approaches, mostly due to the nature of the field, and an enormous number of various factors that not often welcome the naïve investors. Therefore, the demand for building a Decision Support System (DSS) system that can support us on an overall view of the market trends, facilitating the financial analysis and strategies to identify the optimal time to purchase stocks and the actual stocks to purchase has risen for many years recently. In this study, we focus on using data mining technqiues that can support investors in predicting the stock price with existing data from previous phrases. We took data from 3 biggest companies in Yahoo Finance within the 7-year period from 2015-2022. This data will be used to train the algorithms, then we can decide which one is the most suitable for the data mining tools to give the best suggestions for investors.

Keywords: data mining techniques, decision support systems

2-11

ANALYZE FACTORS INFLUENCING ON INFLATION IN VIETNAM USING SVAR MODEL: A CASE STUDY

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ABSTRACT

Vietnam's economy has experienced complicated and unpredictable inflationary periods such as 1986 period. Therefore, the research to forecast inflation is of great significance in both macro and micro aspects. It not only contributes to improve the efficiency of policy administration, but it is also used towards the goal of macro stability, sustainability of economic growth, and improving the efficiency and competitiveness of enterprises and the economy. There are many quantitative studies on inflation forecasting in the world and in Vietnam, notably using the SVAR multivariate models. Based on the advantages of using SVAR, this paper will use SVAR model to analyze factors impacting to the inflation in Vietnam. Based on the data collecting from 2016 to 2020, the results show that, in the short term, inflation is mainly affected by its own fluctuations in the past, while the world oil price, exchange rate and interest rate Interest rates partly explain the volatility of inflation, but the contribution is very small. On the other hand, in the long term, the influence of past inflation reduces over time, but it still explains well the fluctuation of current.

Keywords: data mining, inflation,policy

2-12

A FRAMEWORK FOR FORMULATION OF STUDENT DATASET USING EXISTING AND NOVEL FEATURES FOR ANALYSIS

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ABSTRACT

One major problem identified with most schools in Nigeria is that they lack structured educational datasets that is composed of several attributes related to each student, such as term-based grades, courses taken, student-specific details, and absences which could be easily analysed, are not readily available. This paper formulates a dataset with some novel features for analysing and predicting student performance. Apart from the current features like age, grade, number of failures etc. some novel features which consists of environmental factors were proposed. Students' records were collected from schools and surveys on schools' infrastructure were collected using a questionnaire. The data were analysed using NumPy and Pandas in python. Random forest was used as classifier for making prediction and detecting important features. The following features were found to influence the model decision in making decision; Average, Number of failures, students score in all the subjects, school type, portable drinking water, availability of electricity, textbook to student ratio, and availability of laboratory reagents. Four of the proposed features were among the most important features. In addition, the model was excellent in making prediction. Results of the analysis shows that there are more male than females in the dataset, this means that government, non-governmental organization and the society needs to promote and encourage girl child education.

Keywords: student, dataset, feature importance, random forest

2-13

HYBRID AGILE PRACTICES: CHINESE PERSPECTIVE

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ABSTRACT

Software development has greatly improved the development and efficiency of modern civilization, and more and more software development models are being released constantly. However, a single software development model is not enough to meet the rapid development of software. Therefore, it is critical to further explore hybrid agile models that combine agile methods with other development methods to meet different project requirements. In addition, the practices of hybrid agile models are not always the same in different countries and regions. Due to the diversity and complexity of development projects, it is common for Chinese enterprises to adopt agile development methods, but few enterprises adopt mixed agile models. The purpose of this study is to explore hybrid agile practices among software development companies in China. Through investigation and analysis, it is hoped that the application status of the hybrid agile model in the Chinese software development industry will be discussed deeply, and references will be provided for further improvement of the hybrid agile model practice. This paper conducts semi-structured interviews with three experienced Chinese software developers and finds out the specific practices and opinions of Chinese respondents on hybrid agile development.

Keywords: Agile, Hybrid, Software Development, Practices, Methods, Techniques

2-14

DEVELOPMENT OF KNOWLEDGE MANAGEMENT FRAMEWORK FOR EXPERT COMMUNITY WITHIN STATE-OWNED ENTERPRISE IN CHINA

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ABSTRACT

This study discusses the creation of a knowledge management architecture suited for the expert community within Chinese state-owned enterprises (SOEs). To preserve a competitive advantage, these organisations' swift growth and complexity necessitate effective management of talent and knowledge. Existing knowledge management systems, on the other hand, frequently miss the specific characteristics and challenges faced by expert communities within SOEs. As a result, the purpose of this study is to fill that gap by presenting a comprehensive framework for capturing, organising, and leveraging the knowledge and experience of the expert community in the Chinese SOE setting. By addressing the special issues and requirements of these companies, the suggested knowledge management framework for expert communities within Chinese SOEs contributes to the literature on knowledge management. It provides managers and practitioners in SOEs with practical information and recommendations for effectively leveraging the skills and knowledge within their organisations. Furthermore, this study has significance for Chinese policymakers and government officials since it emphasizes the need of developing a knowledge-sharing culture and supporting the establishment of effective knowledge management systems within state-owned firms.

Keywords: knowledge management, China, Chinese state-owned enterprises, information sharing, community

Track 3: Engineering and Innovation Technology

Engineering and scientific advancements have revolutionized the world and brought about numerous innovative solutions that have improved the quality of life for people everywhere. From the historic moon landing by Neil Armstrong to the introduction of cutting-edge 5G technology and most recently AI, engineers and innovators have continued to push the boundaries of what is possible. These advancements have also helped to address critical global challenges and promote sustainable development. For example, clean energy solutions, advanced concrete materials, CO2 sequestration techniques, and innovations in water treatment which have contributed to the United Nations' Sustainable Development Goal.

In this Research Track, we invite engineers, innovators, and researchers from all fields of engineering to share their cutting-edge research and innovations with the world. This is a unique opportunity for you to showcase your work and make a positive impact on society by contributing to the Sustainable Development Goals. Whether you are working on developing new technologies, improving existing solutions, or creating innovative applications, your research has the potential to change the world. Join us at and make your technological innovations a reality.

Track Chair: Associate Professor Ts. Dr Lee Hoong Pin
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Assistant Track Chair: Ts. Dr. Ang Kiang Long
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AN INTELLIGENT INSPECTION SYSTEM FOR MONITORING CONVENTIONAL SOLDERING

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ABSTRACT

Assembly of electronic components onto Printed Circuit Boards (PCBs) relies heavily on conventional soldering operations, which play a vital role in the overall assembly process. The increasing complexity and diversity of PCB soldering tasks, however, necessitate the incorporation of digital technologies to support workers or establish seamless connections with automated equipment. Despite the pervasive use of automation, conventional PCB soldering is still necessary due to the remarkable flexibility and adaptability of human workers across a variety of workspaces and tasks. Regardless of the aforementioned, the inherent adaptability of human employees introduces the possibility of operational errors, in contrast to the consistent and dependable behavior of automated equipment. This study proposes an innovative technique that employs artificial intelligence for image processing, facilitating the identification and inspection of workers' hand actions and poses during soldering operations. Utilizing three motion detection models, the proposed method obtains an exceptional validation accuracy of up to 97.92%.

Keywords: process innovation; conventional soldering; intelligent; printed circuit boards

EXPLORING CATALYZED BIOMASS CONCRETE (CBC): A SUSTAINABLE APPROACH FOR ELECTRICITY GENERATION IN CONSTRUCTION

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ABSTRACT

This study examines Catalyzed Biomass Concrete (CBC) as an eco-friendly solution for electricity generation in construction. By harnessing solar-induced biomass fuel and utilizing polyoxometalates (POMs) as catalysts, CBC presents a sustainable alternative to conventional cement production, which contributes to rising CO2 emissions. The paper assesses the feasibility of incorporating palm oil fuel ash (POFA) as a partial substitute for cement and investigates the impact of four POMs catalysts. The objective is to evaluate the voltage generation of POFA concrete with varying POMs catalysts. Concrete specimens, each containing a fixed catalyst quantity, undergo compressive strength testing at intervals of 7, 28, and 56 days. The optimal catalyst dosage, determined through voltage tests, is used for the compressive strength analysis. To investigate the engineering properties of different CBC samples and support the research findings, multiple tests and analyses including thermogravimetry analysis (TGA), surface area analysis (BET), Fourier transform infrared (FTIR), Zeta potential, X-ray fluorescence (XRF), X-ray diffraction analysis (XRD), and scanning electron microscopy-energy dispersive X-ray analysis (SEM-EDX) are employed. The results demonstrate that CBC with the catalyst group 1 exhibits superior voltage generation and compressive strength on the 56th day. These findings underscore the potential of CBC as an environmentally friendly alternative for electricity production in the construction industry.

Keywords: Catalyzed Biomass Concrete (CBC), Electricity Generation, Sustainable

THE STUDY ON THE IMPACT OF THE EXOSYSTEM THEORY ON THE REVOLUTION INDUSTRIAL 4.0

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ABSTRACT

The ecological systems developed by Bronfenbrenner's views person's environment as a complex system of relationships affected by multiple levels of the surrounding environment, from immediate settings of family to broad cultural values, laws, and customs. One of five different system introduced by Bronfenbrenner's is the exosystem. The exosystem is a component of the ecological systems incorporates other formal and informal social structures which indirectly influence them as they affect one of the microsystems. This theory will show the process of development that develops between the individual and the environment. The character of an individual will shape from the influence of the surrounding environment such as family, education, social, healthcare, and economic. This paper will discuss the integration of ecological systems of person development into aspects of exosystem thought in the environment of the revolutionary 4.0 era. Research on four aspects of the personal characteristic, social and culture and organization environment will be detailed. This method of study uses documentary analysis based on Bronfenbrenner's writings. The novelty of this study is its depiction of Industry 4.0 and its technologies integrated with person surrounding development goals to create a sustainable Industry 4.0 combining environmental protection and sustainability.

Keywords- Ecological systems, Exosystem Theory, Revolution 4.0

3-04

COMPRESSIVE STRENGTH AND VOLTAGE PERFORMANCE OF CATALYZED BIOMASS CONCRETE WITH PHOSPHOTUNGSTIC ACID AS NEW RENEWABLE ENERGY SOURCE IN CONSTRUCTION

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ABSTRACT

World leaders are concerned about the depletion of non-renewable energy sources and are working to advance the development of renewable energy resources. This is particularly important in the building industry, as cement, from manufacturing to construction, accounts for a considerable portion of carbon dioxide (CO2) emissions, contribute significantly towards pollution and greenhouse gases. Biomass has been widely used as cement replacement for properties enhancement with aim to reduce the emissions of CO2. Besides, biomass, in biochemical research, incorporates well with polyoxometalates (POM) as fuel cell to generate energy at comparative lower temperature to power plant. It is believing that the electric-potential of biomass is yet to be fully discovered, especially when it is mix with concrete constituents. By integrating POM into concrete and using it to generate voltage, Catalyzed Biomass Concrete (CBC) believe can cut CO2 emissions while also reaping the benefits of clean, sustainable power sources. In this study, concrete with fixed percentage of POFA as cement replacement was mixed with phosphotungstic acid at percentage ranged from 10% to 40%, tested for its compressive strength up to 56 days and voltage performance under exposure of temperature range from 0oC to 100oC. Testing for compressive strength and peak voltage employed the standard concrete cube of 100mm x 100mm x 100mm, and for the latter was 50mm x 50mm x 20mm specimens. In nutshell, at all temperatures of exposure, the 40% catalyst produced the greatest voltage performance (0.405V) compared to the other POM percentages. While for concrete compressive strength compare to control specimen, it was found a deduction at 47.9% for 10% catalyst, and 57.5% for 40% catalyst. This study has proven that biomass concrete with POM able to generate voltage when expose to different temperature, however, the compressive strength development may need further study so to leverage the full potential of catalyzed biomass concrete in construction industry.

Keywords: Catalyzed biomass concrete, renewable energy, sustainable construction, green building

3-05

ELECTRICAL RESISTANCE BEHAVIOR AND CRACK DETECTION STUDY ON SMART CONCRETE WITH DIFFERENT CONDUCTIVE FILLERS FOR STRUCTURAL HEALTH MONITORING

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ABSTRACT

Smart concrete in SHM can benefit from this technology to monitor a structure's condition without external sensors. To produce a smart concrete, concrete have to be filled with conductive fillers to reduce the resistivity of the plain concrete, so that the concrete can give accurate and fast reaction. In recent years, smart concrete had been intensively studied on the optimum dosage that provide the most stable reading and better strength in compression. It was found out that 1.5% of cement mass is the most optimum dosage for carbon fibre (CF) and steel fibre (SF). However, different materials had not been compared together on which material provides better reaction and better crack detection. Hence, this research focus on the study of different conductive fillers in compressive strength, electrical resistance behaviour and crack detection. 1.5% CF, graphite powder (GP) and SF, and 4% GP was analysed in slump test, mode of failure and its strength using concrete cube samples. Additionally, to study the electrical resistance behaviour and crack detection, concrete cylinder samples were prepared and loaded repeatedly to study changes in resistance. Then, the cylinder samples were loaded to failure to obtain the stress-strain curve and compared with the changes in resistance. In compressive strength, it was revealed that all smart concrete had lesser strength compared to control, but 1.5% CF came to closet to control. Meanwhile, in resistance testing, 1.5% CF provided the most stable resistance reading under repeated loadings and provided the closest crack detection right before the concrete failed. SF can sustain more strain, but unable to provide stable reading, which gives an early crack detection. 1.5% GP had more stable reading and better strength compared to 4% dosage. Thus, 1.5% CF has better compressive strength at 28 days and better reading for crack detection.

Keywords: Smart concrete, Electrical resistance, Structural Health Monitoring (SHM), Crack detection

ON INTERACTING GHOST DARK ENERGY MODEL IN NON-FLAT UNIVERSE

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ABSTRACT

An interacting ghost dark energy with experimental constraint in non-flat universe is studied in this report. Based on the linear relation between dark energy and Hubbard function, it is found that the non-gravitational interaction between dark energy and cold dark matter results in the transfer of cold dark matter to dark energy. The Cosmological evolution of the interacting ghost dark energy density, its equation of state and the deceleration parameters in non-flat universe are obtained analytically. Based on the astronomical observations on the present value of the energy density of state ω_D0, we impose restrictions on the interaction factor. It is found that there is a simple reverse linear relationship between ω_D0 with the interaction factor and all the deceleration parameters q_0∈[-0.91,-0.38] are negative, which is well-agreed with the astronomic observation on the accelerated expansion of the universe.

Keywords: Ghost dark energy; Friedman equation; the parameter of equation of state

3-07

UTILIZING NONI FRUIT (*Morinda citrifolia*) AS A CORROSION INHIBITOR FOR CARBON STEEL IN SODIUM CHLORIDE (NaCl) SOLUTION

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ABSTRACT

In order to reduce the environmental impact, the use of inhibitors based on inorganic chemicals for corrosion prevention should be limited. As a substitute, inhibitors made from organic chemicals should be used. Chemical tests have shown that noni fruit (*Morinda citrifolia*) contains polyphenolic compounds (tannins) which can form a layer on the metal surface so that it can effectively reduce the rate of corrosion on iron. This research was conducted to study the corrosion behavior of noni fruit in reducing the rate of corrosion. To turn noni fruit into an inhibitor, the noni fruit was extracted first to take its chemical compounds. Oil derived from noni fruit extraction was put into a tube containing 0.2, 0.5 and 0.7 ml of 3% NaCl solution. Corrosion rate testing was carried out using the extrapolated Tafel method. From the Tafel diagram it was found that noni fruit extract was able to reduce the corrosion rate by 60% at a concentration of 0.7% ml. Noni fruit extract was also successful to form a passive layer on metal surfaces. From observations there was a tendency that the higher the concentration of noni fruit extract the greater the passive potential that was formed. From the experiment it can be concluded that there was potential that noni fruit can be used to inhibit the rate of metal corrosion in a corrosive environment.

Keywords: noni fruit extract, extrapolated tafel, inhibitor.

IMPACT RESISTANCE OF REINFORCED LIGHT WEIGHT OIL PALM SHELLS CONCRETE USING HYBRID POLYPROPYLENE FIBRES - EXTRUDED POLYPROPYLENE MESH NETTING

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ABSTRACT

Light-weight aggregate concrete (LWAC) utilising agriculture waste has been used in order to produce sustainability, affordable and environmentally friendly to mitigate the climate change. This research paper focuses on investigating the performance of lightweight oil palm shells concrete (OPS-LWC) slabs reinforced with Polypropylene (PP) fibers and PP mesh netting. The study examines three different fiber volume fractions (1%, 2%, and 3%) and explores their impact on crack resistance and energy absorption during low impact projectile testing. Slabs of dimensions 300mm x 300mm and 40mm thickness are subjected to a drop-weight impact test using a self-fabricated rig and a 1.05 kg steel ball dropped from a height of 0.57 m. The main objectives of the study are to analyze the relationship between impact energy, crack resistance, and fiber volume fractions for top and botom fiber distribution. The results indicate that an increase in PP fiber dosage leads to significant improvements in impact energy absorption, impact crack resistance, crack resistance ratio, and impact residual strength ratio. The study reveals excellent linear correlations between service and ultimate crack resistance with respect to fiber volume fraction. The botom fiber distribu□on demonstrates higher service and ultimate crack resistance compared to the top fiber distribution. Botom fibre distribu□on recorded a higher service and ultimate crack resistance than the top fibre distribution..

Keywords: Impact resistance, impact energy, service and ultimate crack resistance, oil palm shell aggregate, polypropylene Fibres, extruded polypropylene Mesh Netting

3-09

USING FLY ASH AND MARBLE AS AGGREGATE IN THE ROLLER COMPACTED CONCRETE

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ABSTRACT

Roller compacted concrete RCC is a suitable economic and environmental substitute for traditional concrete. RCC may utilise waste resources such as fly ash and reduce pollution from these products. Cement use and production can be minimized using this cement mix. The study's two objectives are to investigate the performance of the fly ash RCC. First, the performance of RCC containing different percentages of fly ash is compared; second, the performance of all mixes using marble aggregate. The significance of studying the first objectives comes from the low number of the studies that compare between RCC that has different percentages of fly ash. While for the other objective; Malaysia has a large supply of marble. By using marble as aggregate in dams' construction, can save time and costs in terms of transportation. There is very limited research on the effect of using marble as aggregate in RCC, for such reason studying the fly ash percentages while using a new form of aggregate intended to address a gap in the literature regarding RCC, fly ash, and marble by contributing to a worldwide understanding of RCC. To achieve the objectives of the study, experimental design was adopted, where the aggregate was tested for physical properties tests, and various mixtures were prepared by changing the contents of fly ash and testing these mixtures using strengths tests. For the first goal, four mixes were employed, and fly ash replacing cement by four percentages: 0%, 15%, 30%, and 45%. The results of the tests revealed that increasing the fly ash content in the RCC causes a reduction in compressive strength and Tensile strength in the early stages but a noticeable increase in the later stages. The aggregate and aggregate size employed in this experiment resulted in poor strength for all tests; also, the compaction process used (rod compaction) was not suitable for RCC. The strength findings however were compared to the control mix. This helped make a reasonable conclusion regarding the strength using the different fly ash percentages.

Keywords: Roller compacted concrete, RCC, Fly ash, Marble aggregate,

3-10

THE TRIBOLOGICAL EFFECTS OF PAD WEAR ON DISC BRAKE SQUEAL

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ABSTRACT

Squeal can be a major problem in the development of an automotive disc brake system and large efforts have been made to reduce the squeal tendency. Brake squeal is a noise emanating from car disc brakes that excites due to one or more mechanisms such as mode coupling, stick-slip, hammering and sprag-slip. In the effort to satisfy customer expectation on minimal noise and vibration, high and stable friction and low wear rate at pad and disc, this paper investigates the effects of brake pad wear on squeal generation. The squeal experiment will be held on a high frequency of squeal which up to 10 kHz. Four pairs of a non-asbestos organic (NAO) brake pad will be tested on a brake dynamometer test rig. The wear behavior of the brake pad will be analyzed through microscopic techniques using Scanning Electron Microscope (SEM), Field-Emission Scanning Electron Microscope (FESEM) with EDX, and X-Ray Diffraction.

3-11

THE INTENTION OF COMMUNITY GARDEN PARTICIPATION: A CASE STUDY IN COMMUNITY GARDEN OF TAMAN TASIK ILMU, KOTA SERIEMAS

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ABSTRACT

Malaysia's population is projected to reach about 41.5 million in 2040 (Ho, M. K., 2016). Based on this rapid population increase, it is expected that the urbanization rate will also increase and they will be an issue on food security. The Sustainable Development Goals (SDGs) by UN in year 2015 have outline attention and action in response to the food security issue in Goal No. 2 (Zero Hunger). Malaysian strategies to achieve Goal No. 2 is by introducing a community garden program. Nevertheless, the success of a community garden depends on the intention and volunteerism of community participation. Hence, this study aims to explore the intention for community garden participation to joint Community Garden, Taman Tasik Ilmu. The data was collected by using online questionnaire with 40 participants. The participantswere asked about their demographic information, involvement, gardening knowledge, facilities, and garden management. Descriptive analysis was applied to analyse the collected data. The outcome of the research exhibited that the real intention for the participants to participate in the community garden program was to fill their free time. This indicates that participants' intention at Taman Tasik Ilmu is not in line with the objectives of the community garden as stated by the government policy and objectives (food security). It is better if the community garden objectives can differentiate by land-use planning strategy so that it's easier for local authorities to set the objectives of community garden programs based on the participant intention. These are essential for the success and sustainability of the community garden program.

Keywords: community garden, food security, participants' intention

3-12

THE EFFECTS OF FINS LENGTH ON VAPOUR CHAMBER

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ABSTRACT

Cooling performance is always being a major issue for electronic packages. Vapour chambers with different lengths of hollow fins heat sink have been constructed to improve the cooling performance of electronics equipment. The sets of vapour chambers were tested under fill ratios of 0.25, 0.5 and 0.75. Conditions of natural convection and forced convection were used during the experiments. Power was supplied at 10W, 20W and 30W. The results show that thermal resistance of the vapour chamber is decreased with the increased of the power inputs. The total thermal resistance of vapour chamber is decreased when the length of the fins is increased.

Keywords: Vapour chambers, thermal resistance, hollow fin heat sink, fill ratio

3-13

EXPERIMENTAL STUDIES ON CONCRETE UTILIZING RED MUD AS A PARTIAL REPLACEMENT OF CEMENT WITH SYNTHETIC FIBRE

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ABSTRACT

Industrial waste has become a huge concern around the world, posing a serious threat, particularly to the environment. Waste materials are created in the millions of tonnes around the world each year, causing economic, health, and pollution issues. The increased usage of industrial waste materials such as red mud waste in the building industry has reduced the management and disposal issues associated with these wastes. This research focuses on experimental experiments on concrete that employ red mud as a partial replacement "for cement and nylon twin as a synthetic fibre. With a water-cement ratio of 0.55, a constant 2% percentage additive of nylon twin as synthetic fibre and 5%, 10%, 15%, 20%, 25% of red mud as industrial waste to be partially replaced to cement will be employed. The workability and compressive strength of the cubes will be tested in this sort of concrete. Finally, the findings will be compared to standard concrete. The compressive strength of concrete will be determined using a 150 mm x 150 mm x 150mm cube in this investigation. For the optimum amount of red "mud, the compressive strength of concrete was measured after 7, 14, 21, and 28 days of curing. The compressive strength of concrete was shown to be optimum at 15% red mud, and that as the amount of red mud increased, the compressive strength decreased. The workability of the concrete mix decreased as the percentage of red mud in the mix increased. However, observations during mixing and casting revealed that increasing the red mud content in the mix still produced a workable mix when compared to the control mix.

Keywords: Red Mud, Nylon Twin, Synthetic Fibre, Sustainable Development Goals 12 (SDG 12)

3-14

GENERATIVE AI FOR ENGINEERING EDUCATION: OPPORTUNITIES AND CHALLENGES

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ABSTRACT

Generative artificial intelligence technology is a type of AI that is designed to generate new content or ideas and express it in real-time conversations. It has the potential to offer personalized and effective learning experiences by providing students with customized feedback and explanations, as well as creating realistic virtual simulations for hands-on learning. However, it is important to also consider the limitations of this technology. Generative AI systems are only as good as their training data and may perpetuate biases or even generate and spread misinformation. Additionally, the use of generative AI in education raises ethical concerns such as the potential for unethical or dishonest use by students and the potential unemployment of humans who are made redundant by technology.

Keywords- Generative AI, Engineering Education, Personalized learning

Track 4: Education, Business and Management

Green sustainable technology and management refers to the development and implementation of technologies, policies, and practises aimed at reducing the negative impact that human activities have on the environment while simultaneously promoting economic growth and social well-being. Green sustainable technology and management are also known as eco-friendly technology and management. This strategy prioritises the conservation of natural resources, the mitigation of waste and pollution, and the development of renewable and environmentally friendly energy sources. Collaboration between the government, industry, and communities is required for effective green sustainable management. This is done in order to discover sustainable solutions for the future of our planet. It also involves engaging in sustainable practises on a day-to-day basis, such as recycling, cutting down on energy consumption, and making use of products that are kind to the environment. We can make strides toward a more sustainable future for the planet and the generations that will come after us if we implement environmentally friendly technologies and management practises.

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EQUITY-EQUALITY FOR SUSTAINABLE EDUCATION

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ABSTRACT

Sustainability consists of fulfilling current generations' needs without compromising future generations' needs while ensuring a balance between economic growth, environmental care and social well-being. Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs. The Sustainable Development Goals (SDGs) adopted by the United Nations lists seventeen integrated goals, the fourth being quality education. SDG4 aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. This presentation is about the core concept of SDG4, that is, inclusion and equitable education, from the perspective of equity in education and equality in education.

Keywords: education system, fairness, inclusion, quality education, generation, sustainable development

THE INFLUENCE OF ECONOMIC POLICY UNCERTAINTY ON STOCK MARKET PERFORMANCE TOWARDS STRATEGIC EMERGING INDUSTRIES IN CHINA: THE MEDIATING EFFECT OF INVESTOR SENTIMENT

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ABSTRACT

The rapid and efficient development of the economy is inseparable from the good and orderly operation of the stock market. The regulatory authorities will act to preserve the stock market's stability and encourage its healthy growth. When the policy has yet to be announced, investors don't know whether the government will publish the matching economic policy and the time and exact substance of the new policy, including trade, monetary, fiscal, and exchange rate policy. This leads to uncertainty about investors' future expectations. Most of the current research on stock market performance and economic policy uncertainty is rarely based on behavioral finance. In addition, strategic emerging industries in China have a major leading role in the long-term overall economic and social development, with great growth potential, representing both the direction of technological innovation and industrial development. From the perspective of behavioural finance, this paper studies the influence mechanism of four components of economic policy uncertainty (Trade, monetary, fiscal and exchange rate policy uncertainty) on stock market performance in strategic emerging industries in China and the mediating effect of investor sentiment. In this study, correlation analysis, linear regression and stepwise regression have been used. The correlation analysis and linear regression reveal that monetary, fiscal and exchange rate policy uncertainties have a negative effect on stock market performance in strategic emerging industries, while trade policy uncertainty concerns don’t. Furthermore, the mediating influence of investor sentiment on fiscal and exchange rate policy uncertainty surroundings on stock market performance demonstrates complete mediation. In contrast, partial mediation exists only in monetary policy uncertainty. This research will assist policymakers, investors, academics, and China’s financial authorities in understanding this phenomenon. And this study has very important theoretical and practical significance for stock pricing, forecasting, and the formulation of economic policies.

Keywords: economic policy, behavioural finance, policymakers, investors, fiscal and exchange rate policy uncertainty

4-03

RESEARCH ON THE IMPACT OF GREEN CREDIT ON COMMERCIAL BANKS' OPERATING PERFORMANCE BASED ON THE ANALYSIS OF 14 LISTED COMMERCIAL BANKS

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ABSTRACT

Since the reform and opening up, with the continuous growth of China's economy, China's environmental problems have also become increasingly prominent, and the contradiction between economic development and the ecological environment has also become increasingly serious. In 2007, China issued the Opinions on the Implementation of Environmental Protection Policies and Regulations to Prevent Credit Risks, which sounded the horn of China's commercial banks to implement green credit. Commercial banks, as the main players in implementing green credit, play an important role in promoting the implementation and development of green credit. How will implementing commercial banks' green credit affect the bank's operating performance? With the above questions, this paper uses the data of 14 listed commercial banks in China from 2009 to 2018 and theoretically and empirically analyzes the impact of the implementation of green credit on the operating performance of our commercial banks. In addition to affecting profitability, the credit risk of commercial banks can be reduced to a certain extent by issuing green credit to low-carbon, environmentally friendly green enterprises. In addition, commercial banks' green credit business can also increase the intermediate income of commercial banks to a certain extent. From a practical point of view, an empirical analysis reveals that there is an inverse correlation between green credit and bank operating performance. This is mainly due to the small scale of existing green credit, and implementing green credit requires a long recovery period. The impact on operating performance may take a long time to appear. In addition, through III, an empirical analysis of the impact of green credit on operating performance, it can be obtained that the increase in green credit will positively affect the income of intermediate businesses and will hurt the current rate of return on assets and non-performing loan ratio. Based on the above analysis, this article finally puts forward policy recommendations from the external environment and commercial bank levels to provide a reference for commercial banks to develop green credit businesses.

Keywords: green credit, commercial banks, operating performance, credit Risks, return on assets

4-04

RESEARCH ON THE IMPACT OF EU GREEN TRADE BARRIERS ON AGRICULTURAL EXPORTS IN GUIZHOU

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ABSTRACT

With the continuous development of the world economy, countries have gradually realized the importance of environmental protection, paid more and more attention to environmental protection factors when carrying out foreign trade, and finally gradually evolved into green barriers in international trade. As the main export market for China's agricultural products, the EU's green trade barriers are increasing daily. As a landlocked province in China, Guizhou's agricultural exports to the EU are still hampered by green trade barriers, despite its unique climate, soil, light and other natural resources, which give its agricultural products an "innate" natural endowment. Based on the theory of international trade protection, this paper combines data on the impact of green trade barriers on agricultural exports in Guizhou Province. It uses a combination of qualitative and quantitative methods to analyze the reasons. It is believed that the impact should be viewed dialectically, and if the quality of the product itself is not good, then it is reasonable to suffer from trade barriers; If it is only to protect the importing country's agricultural products, this is a development contrary to economic globalization and should be condemned and resisted. Finally, it puts forward policy suggestions to promote the export of agricultural products from Guizhou Province to the EU.

Keywords: environmental protection, green trade barriers, agricultural exports, economic globalization, international trade protection

4-05

GREEN FINANCE AND ENTERPRISE GREEN INNOVATION IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

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ABSTRACT

Promoting high-quality and sustainable economic development is China's development goal, and green finance has reached a global consensus since it was proposed at the G20 Hangzhou Summit. This paper expounds on the connotation of green finance and its role in green enterprise innovation and its path from the theoretical perspective and puts forward policy suggestions such as improving green finance laws and regulations, innovating products and services, correctly handling the relationship between government and market, and clarifying the division of labour of various subjects, so as to make green finance promote enterprise green innovation more effectively.

Keywords: green enterprise innovation, green finance, green innovation

4-06

STUDY ON THE INFLUENCE OF CENTRAL AND LOCAL FINANCIAL SUPERVISION MODE ON THE SUSTAINABLE DEVELOPMENT OF THE INFORMAL FINANCIAL MARKET

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ABSTRACT

It is necessary to clarify the impact of central and local regulation on the informal financial industry, resolve the informal financial industry's risks, maintain the financial market's stability and promote the sustainable development of finance. This paper takes small loan companies as the research object. It takes the data of national small loan companies from 2012 to 2022 to analyse the existence and development of informal financial enterprises from the perspective of central and local supervision, respectively. The DID model is used to explore the impact of central and local regulatory policies on the implementation of small loan companies, and the survival analysis model is used to analyse and regulate the life cycle and development of small loan companies. The study found that the central and local financial supervision mode has a certain role in promoting the sustainable development of the informal financial market. Still, there are also some areas for improvement in the central and local supervision, which are mainly manifested as the overlapping supervision will bring business trouble to the regulated enterprises to a certain extent. The conclusion of this paper provides experience and inspiration for the coordinated supervision of the central and local governments, the improvement of the financial supervision system and the standardised development of the informal financial market.

Keywords: sustainable development, informal financial market, local regulatory policies, regulated enterprises

4-07

STUDY ON THE IMPACT OF DIGITAL ECONOMY ON INDUSTRIAL GREEN PRODUCTION EFFICIENCY

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ABSTRACT

Since the 21st century, with the continuous development of digital technologies such as big data, artificial intelligence, cloud computing and the Internet of Things, a new wave of a technological revolution with intelligence, networking and digitization as the core is sweeping the world, and the digital economy has become a new era. Based on this background, the improvement of the development level of the digital economy, the enhancement of green industrial development, and how the digital economy can promote green industrial development will have a particularly important theoretical and practical significance for the transformation and development of China's economy. The study selects the digital economy development level index as the explanatory variable and the industrial green development efficiency using the green productivity index as the explanatory variable. The study shows that, first, the digital economy provides industrial enterprises with more information and technical support. Through the application of digital technologies, enterprises can better monitor and manage resource utilization and achieve optimization and savings in production processes. In addition, the digital economy has promoted information sharing and cooperation among enterprises, enhanced resource integration and collaborative innovation, and improved the efficiency and sustainability of the entire industrial chain. Second, developing the digital economy also brings new business models and market opportunities. Through e-commerce platforms and the application of Internet technologies, companies can expand their markets, reduce transaction costs, and work more closely with other participants in the environmental industry chain. This cooperation model can facilitate the developing and promotion green technologies and products and improve the efficiency of green industrial production. Finally, this study proposes some policy recommendations to further promote the digital economy's positive impact on industrial green production efficiency. The government should increase its support for developing the digital economy, provide relevant policies and financial support, and encourage enterprises to increase the application and innovation of digital technologies. At the same time, the government should also strengthen the construction of information-sharing and cooperation platforms to promote cooperation and resource integration among enterprises.

Keywords: digital technologies, green industrial development, artificial intelligence, cloud computing, Internet of Things

4-08

THE IMPACT OF ESG ON THE GREEN TRANSFORMATION OF CORE BUSINESS

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ABSTRACT

One of the key aspects of the United Nations' 2020-2030 decade of action is taking measures to address the climate emergency. In the context of China's financial market, the development of ESG (Environmental, Social, and Governance) has become a powerful tool in addressing environmental issues. As most companies offer a variety of products or services, this paper takes an informal environmental regulation perspective. It examines the exogenous impact of Syn Tao green finance's first public release of ESG on listed companies in the A-share market from 2013 to 2023. Using a multiple time point difference-in-differences model, the study empirically investigates the effects and mechanisms of ESG on the green transformation of core business for multi-product enterprises. The research shows that ESG, through market incentives and external monitoring mechanisms, significantly promotes the green transformation of companies' core business. This conclusion remains robust after a series of robustness tests. The study provides a new theoretical perspective for exploring corporate green transformation and offers empirical evidence for building and improving a market-oriented green development system in practice.

Keywords: ESG, green transformation, multi-product enterprises, market-oriented green development

4-09

GOVERNMENT SUPPORT, ENTREPRENEURSHIP AND HOUSEHOLD FINANCIAL ASSET ALLOCATION

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ABSTRACT

Under the new development pattern, optimizing the allocation of household financial assets is an important way to expand domestic demand and smooth the dual-circulation development pattern. Based on the 2019 CHFS survey data, this paper empirically analyzes the impact of government support, entrepreneurship and household financial asset allocation. It is found that government support significantly increases the probability of households participating in the financial market and holding risky financial assets, which is still significant after considering the issues of endogeneity and robustness. The mechanism test shows that government support affects household financial asset allocation by promoting entrepreneurship. The role of government support on household financial asset allocation showed significant differences in household financial asset allocation satisfaction, different ages, and between urban and rural areas. To this end, the government should play a leading role in strengthening family members' financial education, improving families' financial literacy, standardizing family entrepreneurship and efficiency, and improving the allocation of financial assets of Chinese households.

Keywords: government support, entrepreneurship, financial market, financial assets, household

4-10

RESEARCH ON TRANSFORMATION AND UPGRADING OF TRADITIONAL INDUSTRIES UNDER THE BACKGROUND OF SUSTAINABLE DEVELOPMENT

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ABSTRACT

The transformation and upgrading of traditional industries is an important support for building a modern industrial system and a necessary condition for promoting sustainable development of a green economy. This paper will discuss how traditional industries can realize transformation and upgrading through high-end, intelligent, green and other ways to promote sustainable economic development. This paper first reviews the theoretical literature in related fields, analyzes the current deficiencies, and then analyzes the power, path, effect and other aspects of the transformation and upgrading of traditional industries, and expounds its impact on economic growth and ecological environment. Finally, the conclusion and prospect of this paper are given, and policy suggestions are put forward. The results of this paper show that the transformation and upgrading of traditional industries positively promote sustainable economic development, which can be achieved by improving the technology level, and reducing resource consumption and pollution emission. The research of this paper has important theoretical and practical significance for understanding the power and path of transformation and upgrading of traditional industries.

Keywords: transformation, traditional industries, Sustainable Development, green economy, ecological environment

4-11

THE INFLUENCE OF MANUFACTURING AGGLOMERATION ON HIGH-QUALITY DEVELOPMENT OF ECONOMY

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ABSTRACT

Based on the panel data of 30 provinces in China from 2010 to 2020, this paper uses the panel model to investigate the impact of manufacturing industry agglomeration on high-quality economic development. It analyzes the regulatory role of environmental regulations. It is found that there is an inverted U-shaped relationship between manufacturing industry agglomeration and high-quality economic development under the regulatory effect of environmental regulations. The heterogeneity analysis shows that there are regional differences in the influence of manufacturing industry agglomeration on high-quality economic development. Therefore, the "two-wheel drive" strategy should be promoted according to local conditions to realize the transformation of regional economic development from high speed to high quality.

Keywords: manufacturing industry agglomeration, economy, environmental regulation, heterogeneity

4-12

ANALYSIS AND THINKING OF AGRICULTURAL SUSTAINABLE DEVELOPMENT AND GREEN FOOD ECONOMY

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ABSTRACT

Our country's economic development has stepped into a period of steady growth, and it is necessary for more industries to transform and upgrade to enhance the technical content and economic income of our traditional industries. At the same time, our agriculture is also changing towards the direction of sustainable development, pursuing the combination of environmental protection concept and high yield and efficient technology and balancing the relationship between economic development and ecological protection. With the development of the social economy, people's living standards and consumption ability have been improved, and they also pursue higher product quality in the choice of agricultural products. The concept of healthy and green food has gradually penetrated people's lives, and the green food economy has gained broader prospects for development. However, there are still many problems in developing a green food economy in our country, which also needs practitioners and local governments to work together to improve the current situation. Therefore, this paper puts forward an effective path to promote the sustainable development of agriculture and a green food economy.

Keywords: green food, agricultural economy, sustainable development, technology

4-13

GREEN FINANCE PROMOTES THE UPGRADING OF ECOLOGICAL AGRICULTURAL INDUSTRIAL STRUCTURE

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ABSTRACT

This paper analyzes the research status of green finance and the ecological agriculture industry at home and abroad. It analyzes the mechanism of green finance to promote the rationalization of ecological agriculture industrial structure. First, green finance can provide financial support for ecological agriculture, promote the upgrading of relevant enterprises and institutions in technology innovation, production management and other aspects, and further promote the upgrading of ecological agriculture to the direction of high quality, high efficiency and low emissions. Secondly, green finance can help ecological agricultural enterprises achieve mutual benefits and win-win results, and give consideration to environmental protection while promoting economic development, thus forming a virtuous circle of the industrial ecological chain. Finally, green finance can also promote the integration and development of ecological agriculture and other fields, promote the formation of a diversified industrial pattern, improve the market competitiveness of ecological agriculture, and further promote the upgrading of China's agricultural and industrial structure. At the end of this paper, some suggestions and measures are given to help green finance better promote the upgrading of ecological agricultural and industrial structures.

Keywords: ecological agriculture, green finance, technology innovation, production management

4-14

RESEARCH ON THE IMPACT OF BANK EQUITY STRUCTURE ON CREDIT RISK: BASED ON THE REGULATORY EFFECT OF "INFORMED TRADING"

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ABSTRACT

Currently, precise lending is the key to economic recovery after the epidemic, and the equity structure within the banking system has a profound impact on actual businesses such as credit processing and credit approval. However, "informed trading" of equity weakens executive incentives and increases the possibility of "tunnelling" behaviour by major shareholders. This paper selects the balanced panel data of 43 A-share listed banks from 2010 to 2020 as the research sample and finds that the continuous optimization of bank equity structure can effectively improve credit risk. First, the more concentrated the equity of major shareholders, the greater the impact of credit risk. Second, the higher the proportion of state-owned shares, the greater the bank credit risk. Third, compared with banks with low "informed trading", 'Informed trading' has exacerbated the concentration of equity and the nature of state-owned equity on bank credit risk.

Keywords: bank equity, credit processing, credit approval, tunnelling behaviour, state-owned shares

4-15

DIGITAL TRADE PROMOTES OUR FOREIGN TRADE TO DEVELOP WITH HIGH-QUALITY MECHANISMS AND PATHWAY RESEARCH

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ABSTRACT

In recent years, information and communication technology has been booming, and the integration between technology and industry has become increasingly close, with traditional industries transforming to digital. In this context, digital trade also began to develop rapidly; the trade model, object, structure and so on have a huge impact. Digital trade has become an important factor in the high-quality development of foreign trade. Therefore, it is worth exploring how digital trade promotes the high-quality development of foreign trade. From the perspective of theoretical mechanism, the mechanism of digital trade promoting the high-quality development of foreign trade is realized by the three mechanisms of power, quality, and efficiency. Digital trade promotes high-quality development of foreign trade by improving digital infrastructure and promoting the digital transformation of traditional industries. We will strengthen the supply of digital technologies to drive the high-quality development of foreign trade.

Keywords: digital trade, foreign trade, ICT, foreign trade, digital transformation

4-16

DIGITAL INCLUSIVE FINANCE, AGRICULTURAL CAPITAL DEEPENING AND AGRICULTURAL TOTAL FACTOR PRODUCTIVITY

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ABSTRACT

Put inclusive digital finance, agricultural capital deepening and total agricultural factor productivity into a unified framework. By selecting panel data from 30 provinces (excluding Hong Kong, Macao, Taiwan and Tibet) in China from 2011 to 2020, analyze the impact effect and action path among the three. The empirical results show that inclusive digital finance and its three sub-dimensions can effectively improve agricultural total factor productivity, and the effect of digital financial coverage is the most obvious; The deepening of agricultural capital plays a part of the intermediary role in the process of inclusive digital finance promoting the growth of agricultural total factor productivity; The heterogeneity results show that inclusive digital finance has a more significant effect on the total factor growth rate of agriculture in the central and western regions. Therefore, we should vigorously promote the development of rural digital inclusive finance, meet the needs of digital agriculture development, and comprehensively improve agricultural total factor productivity.

Keywords: inclusive digital finance, intermediary effect, agricultural total factor productivity, agricultural capital deepening

4-17

TRIADIC MARGINAL ANALYSIS OF BILATERAL AQUATIC PRODUCT EXPORT GROWTH BETWEEN CHINA AND JAPAN

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ABSTRACT

Using the bilateral HS-6 6-digit aquatic product export data from 2000 to 2021 in the UN Comtrade database, this paper analyzes the current situation of aquatic product export. It measures the contribution rates of expansion, quantity, and price margin to aquatic product export growth based on the ternary marginal model. The results show that intensive marginal growth is the main driving force in the export growth of Chinese aquatic products to Japan, and the contribution rate of quantity marginal growth is greater than that of price marginal growth. During the same period, the export price of Japanese aquatic products to China increased significantly, and the quality improved, but the export quantity and type decreased slightly. From the perspective of contribution rate, the growth of China's export trade of aquatic products to Japan is mainly due to the increase in the number of existing products, while the growth of Japan's export trade of aquatic products is mainly due to the increase of the price of existing products rather than the increase of new products, which indicates that the diversity level of bilateral aquatic products exports between China and Japan is insufficient.

Keywords: aquatic product, comtrade database, export growth, aquatic products, marginal growth

4-18

THE IMPACT OF SOCIAL MEDIA MARKETING ON TOURISM BUSINESS OF WOMEN ENTREPRENEURS IN BALI, INDONESIA

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ABSTRACT

Internet technology and social media have become common practice for businesses. Social media now has become a trend and the most popular digital platform because of the affordable costs and minimal technical requirements. Social media is not only used as a marketing tool, but also to find out information about the market, competitors, and customers interest to improve business performance and innovation. Social media enables small businesses to overcome the challenges of limited budget, lack of expertise, and positioning against larger competitors. On the other hand, the progress of the tourism industry in Bali has increased women's participation in economic development. Women entrepreneurs start their own business based on their experience, usually related to personal life. Culinary businesses such as restaurants or small businesses cater to many local employees, especially in the tourism industry. Women entrepreneurs in Bali can utilize social media marketing to enhance the business performance by increasing awareness of products or services, increasing interest in the target market for making purchasing decisions, as well as strengthening consumer loyalty. This study was designed with a quantitative method through non-probabilistic sampling using the convenience and snowball method. The sample taken is a tourism business owner domiciled in Bali and has used social media marketing at least once. The number of samples in this study is a minimum of 200 respondents. The data used in this study were analyzed descriptive statistics by quantitatively describing or summarizing from a collection of information.

Keyword: Social Media Marketing, Women Entrepreneurs, Tourism Business, Bali

4-19

ARTIFICIAL INTELLIGENCE IN ARTISTIC CREATIONS AND ITS RAMIFICATIONS ON THE SUSTAINABILITY OF TRADITIONAL ARTISTS' WORK IN INDONESIA

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ABSTRACT

This study aims to investigate the consistent use of artificial intelligence in artistic creations and its ramifications on the sustainability of traditional artists' work in regard to color availability, time efficiency, and ease of access to materials. This study will encompass artists currently operating in Indonesia. A qualitative approach was taken to collect emic results through in-depth interviews with local artists living in Indonesia and art enthusiasts and/or collectors. Purposive sampling was used to sample 3 artists and 3 collectors from different regions of Indonesia. The findings of this research show that artificially intelligent does significantly contribute to the variety of ways that artists can express their creative understanding. However, the use of artificial intelligence tools raises several ethical concerns surrounding the originality of the works produced and intellectual property rights.

ANALYSIS OF CONSUMER BEHAVIOR ON FOOD CONSUMPTION &FOOD WASTE MANAGEMENT SYSTEM IN THE WASTE BANK MEMBER: A SOCIAL PRACTICE THEORY APPROACH

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ABSTRACT

Increasing population growth globally has a greater impact on waste production. Foodwaste at the household level is the largest point of concern which is strongly influenced by consumers behaviours. The issue of waste and its impact has already been concerned in Indonesia through the Regulation Government that produced to support reducing waste in general with the 3R (Reduce, Reuse, Recycle) implementation (UU No. 12 of 2008). In dealingwith facilitating on the 3R implementation, the other instrument produced by the Minister of Environment of the Republic of Indonesia on number 13 of 2012 toward waste bank that can afford waste management at the household level. Using a mix of quantitative and qualitative methods, the research will conduct to highlight to key factors responsible for consumer behaviour related to food managing consumption through the social practice theory approach.In this research, three variables are proposed that cause behaviours on food consumption and food waste: Material – Meaning – Competence. Using the descriptive analysis on defining its variable through the questionnaire survey as well as deep interview question, the research willequip better understanding concept of consumer food waste practice which will guide in developing the strategy of sustainable food waste behaviour from the primary source in the future.

Keyword: Food consumption, Food waste behaviour, Social Theory Practice

WOMEN IN BUSINESS IN JAKARTA, INDONESIA, AND THE LEVEL OFSTRESS ACCORDING TO PERSONALITY TYPE

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ABSTRACT

This research aimed to identify personality types and assess the level of entrepreneurialstress of women in business in the Jakarta, Indonesia using the descriptive research method.The results suggested coping mechanisms as proposed policy recommendations. Also, thepaper presents a discussion of future research and implications, emphasizing the need toaddress stressors and their impact on different personalities to minimize negative stress effects.The statistical tools used in the study include: a. ANOVA was used to test the significant differences in the assessment of women in business in their level of entrepreneurial stress whenthey are grouped according to their personality type and profile. b. Frequency and PercentageDistribution is a measure of standardizing by calculating the proportion of the respondents withthe same view regarding the sources of stress for women entrepreneurs from the population ofthe respondents. c. Weighted Mean was used to determine the type of personality of the women diplomats and their stressors.

The analysis revealed that the majority of the women in business belongs to 41 and above age bracket, married, either holding bachelor degree, having 6 to 10 years of entrepreneurial experience, having senior managerial role in business, supervise 1 to 5 employees, have been owners of business for more than 10 years, spending 8 to 12 hours in their entrepreneurial engagement but having flexible time, and actively engaged into sports orany recreation activity. In terms of personality type and behavior patterns majority belongs to the Type A personality with Average level of work environment stress.

FACTORS OF MICRO INFLUENCERS AFFECTING BUYER'S INTENTIONS WITH HIGH INCOME IN PURCHASING ECO-FRIENDLY PRODUCTS

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ABSTRACT

This is a pilot study to investigate how micro influencers' characteristics who have promoted eco-friendly products affect buyer's intention with high income levels in Jabodetabekarea, especially regarding the micro influencers' expertise and trustworthiness. Using purposive sampling, a quantitative online questionnaire was distributed to 68 respondents whoare living in Jabodetabek area, using either Instagram, TikTok, or both, and following at least one micro influencer who promotes an eco-friendly product. The respondents have to be an employee or an entrepreneur with an income of at least five million rupiah per month. This income was decided because Jakarta's monthly minimum wage is close to five million rupiah.Jamovi was used to analyze the correlation using t-test and p-value. The results show that microinfluencers affect buyer's intentions with income higher than five million rupiah per month inpurchasing eco-friendly products.

THE ORGANIZATIONAL COMMITMENT OF THE INDONESIAN MICRO-ENTERPRISE'S UNPAID FAMILY WORKER: A UTILITY THEORY PERSPECTIVE

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ABSTRACT

The number of micro-enterprises in Indonesia is huge and their number surpassing small, medium,and large enterprise combined. Almost all of the micro businesses in Indonesia could be categorized as a family business due to its family ownership and employs the family member. Oneof the common practices of the micro-enterprise in Indonesia is employing their family members as unpaid worker due to their budget constraint. By using a utility theory approach, it is hypothesized family employees have a high level of job commitment even though their wages arelower than a regular employee. Based on the data analysis from the Statistical Bureau of Indonesiaand a family business survey conducted by the author in South Jakarta, it is found that family workers commitment toward the organization still exists even though they are not regularly paid. According to Allen and Meyer (1990) framework, their organizational commitment is affected by of affective component (employee's emotional attachment) and continuance component (commitment based on the cost that employees associate when leaving the organization).

Keywords: utility theory, unpaid family workers, micro-enterprise, family business, organizational commitment

FACTORS AFFECTING CONSUMERS' PURCHASE INTENTION TOWARDPLANT-BASED MILK IN INDONESIA

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ABSTRACT

The purpose of this research is to investigate the factors that influence consumers' purchasing intentions for plant-based milk in Indonesia. The study aims to provide insights intothe key drivers and barriers influencing consumers' decision-making process when it comes to purchasing plant-based milk alternatives by examining attitudes, perceived behavioural control, and subjective norms. The findings of this study can help marketers and policymakersbetter understand consumer behaviour in the Indonesian market to drive business growth, as well as offer valuable insights for effectively promoting and positioning plant-based milk products. A quantitative online questionnaire was distributed to 267 respondents who have consumed and are willing to consumer plant-based milk products in Jakarta, Indonesia. the research methodology utilized in this study involved the application of Covariance-Based Structural Equation Modelling (CB-SEM). The findings of this research will determine the significant factors that affect consumers' purchase intention by stating whether the factors fromthe Theory of Planned Behaviour are related to the purchase intention.

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THE EFFECT OF MICRO-INFLUENCER ON GREEN PRODUCTS PURCHASE INTENTION IN JAKARTA, INDONESIA

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ABSTRACT

Environmental problems are increasing public awareness of the importance of protecting the environment. However, this awareness is not directly proportional to the buyingbehaviour of green products. It is caused by several factors: lack of availability, high costs, lackof awareness, perceptions of lack of effectiveness, and greenwashing. Therefore, marketing green products, companies must find ways to increase the desire to buy green products. One way that is often used is through influencers. One type of influencer that has been increasing and is often used lately is the micro-influencer. Through persuasion theory and parasocial relationship theory, previous research found four influencer characteristics that can influence purchase intentions: trustworthiness, perceived expertise, credibility, and parasocial relationships. This study analyzes the effect of four characteristics of micro-influencers on purchase intention, especially for green products for young adult consumers aged 18-24 yearsin Greater Jakarta. The method used in this study is a quantitative method using the Partial Least Squares (PLS) and the Structural Equation Model (SEM) techniques. Based on the surveyresults obtained with 150 respondents using TikTok or Instagram in Greater Jakarta, it is foundthat all of the hypotheses are accepted because the t-statistics and p-value meet predeterminedcriteria. It means the characteristics of trust, perceived expertise, parasocial relationships, andthe credibility of micro-influencers influence the purchase intention of green products for young adults aged 18-24.

Keywords: green products, purchase intention, micro-influencer characteristics, Partial Least Squares (PLS), Structural Equation Model (SEM)

CIRCULAR ECONOMY BUSINESS MODEL OF HOUSEHOLD WASTE MANAGEMENT

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ABSTRACT

Household waste management is still a major issue in big cities like Jakarta. Jakarta is the capital city of Indonesia that has the fourth most populous country in the world. The characteristic of the people in Jakarta is heterogenous and their consumption type/level is different too. The increasing number of economic activities causes the composition of household waste increased and it impacts the waste management system overall. To reduce household waste, there is an independent informal structure organization based on local capacity (kearifan lokal) as we known as a waste bank. The waste management needs collaboration from government, society, business, academic, and non-profit organization to support the integrated waste management system (IWMS). The old paradigm of waste management started from reduce, reuse, recycle, transformation, and landfill but the new paradigm of waste management started from the waste prevention from the source, reduce, reuse, recycle, transformation, and landfill. On this paper, we conduct a qualitative research bases on the waste management system that integrates with the waste bank to build the circular economy business model. This model describes the business opportunity and supports the Sustainable Development Goals (SDG) for sustainable production and consumptionholistically.

MILLENNIAL AND GEN Z ACCEPTANCE TOWARDS GREEN MARKETING ADVERTISEMENT OF BODYWASH PRODUCTS: A CASE STUDY USING THE BRAND YAGI

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ABSTRACT

In recent years, a number small and medium-sized businesses selling eco-friendly and sustainable products in Indonesia have started as the result of increasing demand fromgenerations Y and Z. Known for their "digital savvy" attitude and synonymous with social media usage, many of these businesses use social media sites, such as Instagram, to initiate "green marketing" activities promoting their products to the generation Y and Z target markets.One example is the company Yagi Forest that sells soaps, shampoos, and lotions made using local sustainable ingredients. Using the Theory of Planned Behaviour (TPB) and modelled using structural equational modelling (SEM), this paper seeks to examine the factors that generate the acceptance of social media green marketing by Yagi Forest on Instagram towardstheir target consumers. More precisely, it focuses on whether the effects of environmental consciousness, persuasion from key opinion leaders (KOI), or the overall quality of their posts contribute towards their green marketing acceptance. The results aim to help current and futureentrepreneurs of eco-friendly products, primarily those selling or willing to sell soap, shampoos, and lotions the behaviours that shape the acceptance of green marketing acceptanceon Instagram for them to leverage for their business.

SOCIAL RESOURCES, SOCIAL CAPABILITIES AND SUSTAINABILITY PERFORMANCE: MEDIATING ROLE OF SOCIAL INNOVATION

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ABSTRACT

This research investigates the relationship between social resources, social capabilities,and sustainability performance in the context of social business organizations. The study also explores the mediating role of social innovation in this relationship. The purpose of this research is to provide insights into how social resources and social capabilities can contribute to sustainability performance, with social innovation as a key mediating mechanism. This research involved 171 respondents from social business organizations in the greater Jakarta area, Indonesia. The research methodology utilized in this study involved the application of Partial Least Squares - Structural Equation Modeling (PLS-SEM). The findings reveal a positive and direct relationship between social resources and sustainability performance, indicating that organizations with abundant social resources are more likely to achieve better sustainability outcomes. Similarly, social capabilities are found to have a positive and direct impact on sustainability performance, implying that organizations with strong social capabilities tend to exhibit higher levels of sustainability performance. Additionally, the resultsindicate that social innovation plays a significant mediating role in the relationship between social resources, social capabilities, and sustainability performance. The findings provide practical implications for managers and policymakers to allocate resources effectively, developsocial capabilities, and foster social innovation to achieve sustainable development goals.

Keyword: PLS-SEM, social resource-based view theory, Indonesia.

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TECHNOLOGY ADOPTIONS OF COMPANY PERFORMANCE IN SMALL AND MEDIUM-SIZED ENTERPRISES (SME) IN JIANGXI, CHINA

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ABSTRACT

Company performance is vital for any country in order to achieve high productivity, high profitability and high competitiveness in today's business world. However, Chinese enterprises are considered to have poor performance due to ineffective management, resulting in low performance, low company value, weak financial performance, low productivity and efficiency. The performance of small and medium-sized enterprises (SMEs) in China will also be influenced.

The study aims to explain the company performance of Small and Medium-sized Enterprise (SME), show the technology adoption towards Small and Medium-sized Enterprise (SME) in Jiangxi, China, and conducted by using the 'Unified theory of acceptance and use of technology' (UTAUT) theory to discussed to study the influences further. In addition, UTAUT theory and its dimensions which are performance expectancy, effort expectancy and facilitating conditions will be discussed to justify the influences on company performance of Small and Medium-sized Enterprise (SME) in Jiangxi, China.

The study will be adopted in quantitative research method, and collected the data collection on the factors influencing on company performance of Small and Medium-sized Enterprise (SME) by using questionnaire survey. Then, the research design and research methodology adopted in this study aimed to collect data through questionnaire survey of Small and Medium-sized Enterprise (SME) in Jiangxi. Similarly, the correlation design is also used to examine the relationship between the constructs and the phenomenon under the study.

FACTORS INFLUENCING THE ADOPTION OF ONLINE PAYMENT AMONG GENERATION Z IN SHANGHAI, CHINA

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ABSTRACT

With the continuous development of technology, online payment is developing rapidly in China. At the same time, online payment has also led to the rapid development of e-commerce. J.P. Morgan Global Payments Trends (2019) notes that China's e-commerce market is worth $1 trillion and that a large portion of the population still needs to start online shopping, offering continued e-commerce growth potential. In addition, since Covid-19, more and more countries have encouraged the development of a digital economy, so online payment has developed rapidly worldwide, especially in developing countries. The online payment provides much convenience for consumers' daily purchases, such as food, clothes, water, telephone bills, etc. People no longer need to spend time shopping and paying bills. At the same time, consumers can use the Internet to invest in funds, stocks, and virtual currencies. In China's big cities, thanks to the ubiquity of the Internet, consumers don't have to carry cash around because mobile phones can handle all the payments they need. On the other hand, many online fraudsters use many methods to infringe on the interests of consumers, making consumers hard to guard against. For example, scammers can obtain the SMS verification code by gaining consumers' trust and obtaining all the funds in the consumer's account. In this report, researchers will examine the impact of online payment and security on Chinese consumers' use of online payment through an online questionnaire based on TAM theory with sample size. The unit group is Generation Z in Shanghai, China. This is because Shanghai is the financial centre in China, and the attitudes and intentions of Gen Z consumers will affect most young people. The researchers will then analyse the data and explore consumer behaviour and perceptions of consumers making online payments. Finally, the researchers aggregated the results of these analyses into a report.

Keywords: Online Payment, Online Security, E-commerce, Digital Economics, Gen Z, Consumption Attitude and Intention, Ease of Use, Usefulness.

THE PERCEPTION OF DIGITAL GOLD INVESTMENT AMONG LECTURERS OF THE COMMERCE DEPARTMENT IN POLITEKNIK NILAI

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ABSTRACT

Investment products such as gold investment have gained attention among individuals due to the introduction of digital gold investment platforms. Investment, however, requires sacrifices and risks. Hence, this study aims to examine the perception of lecturers at Politeknik Nilai's commerce department toward digital gold investment. A questionnaire was used to collect the data from all 44 lecturers. Findings indicate that most of the commerce department's lecturers in Politeknik Nilai have a positive perception of digital gold investment.

Keywords: digital gold investment, risks, perception, commerce department

FACTORS AFFECTING FOOD WASTING BEHAVIOR: A CROSS-CULTURAL STUDY

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ABSTRACT

This study aims to determine the relationships between social and sustainable attitudes and financial factors and sustainable attitudes. The relationships are tested in Switzerland & Indonesia. Social identity refers to an individual's concept derived from their social group. The purpose of social identity is to provide individuals with a purpose, a sense of belonging, and meaning in society. Social influence plays a crucial role in the formation of sustainable behavior. We are consciously or unconsciously influenced by social factors daily. Daily, social influence has affected our attitude and belief, possibly leading to our current behavior. Financial situations can have a significant impact on sustainable attitude. Many environmentally friendly products often have a higher cost which discourages households from developing sustainable attitude. The measurement of social, financial, and environmental factors uses questions developed by Van der Werf, Seabrook, and Gilliland (2020) and Visschers, Wickli and Siegrist (2016). The measurement of the different factors was measured using the Likert scale. A scale of 1 to 5 was used to measure the participant's perception towards different statements. In personal factors, the participant was given 3 statements which is, "I feel bad when I throw food away.", "I feel obliged not to waste any food.", "I have been raised to believe that food should not be wasted, and I still live according to this principle.". In financial factors, the participant was given three statements which are "I think that wasting food is a waste of money.", "I cannot afford to pay for foods that are then discarded.", and "Saving money does not motivate me to discard less food.". Lastly, in environmental factors, the participant was given 3 statements which are "Throwing out food does not have an environmental impact.", "I rarely think about the environment when I throw away food.", and "I always have fresh products available to be prepared for unexpected guests or events.". The sustainable attitude will then be measured using the same Likert scale from 1 to 5 with the following statement "I find it difficult to make sure that only small amounts of food are discarded in my household.", "I find it difficult to plan my food shopping in such a way that all the food I purchase is eaten.", and "I have the feeling that I cannot do anything about the food wasted in my household.". Data from the two countries were collected and subjected to Partial Least Square (PLS) analysis for comparative purposes. The findings of this study will shed light on the cultural nuances and contextual factors that underlie food-wasting behavior in Switzerland and Indonesia, contributing to a broader understanding of sustainable food practices and potential interventions for reducing food waste in diverse cultural settings.

Keywords: Food Wasting Behavior, social and sustainable attitudes, sustainable behavior, Many environmentally friendly products, sustainable food practices

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STUDY ON THE DEVELOPMENT STRATEGY OF HONEYSUCKLE INDUSTRY IN FENGQIU COUNTY UNDER THE BACKGROUND OF RURAL REVITALIZATION

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ABSTRACT

Fengqiu County, as the origin of the honeysuckle, has 1500 years of planting history and has the comparative advantage of developing the honeysuckle industry. The local government also strongly supported the development of the honeysuckle industry. Under the background of rural revitalization, this paper analyzes the unique resource endowment characteristics and development status of the honeysuckle industry in Fengqiu County. Given the shortcomings of the industry's current development, the corresponding development suggestions are put forward to activate the revitalization of rural industry, drive local farmers to increase income and promote the Fengqiu County honeysuckle from a comparative advantage industry into a competitive advantage industry.

Keywords: honeysuckle, comparative advantage, rural revitalization, local government, resource endowment

THE DESIGN AND PERFORMANCE OF AN ONLINE AUTO-TUTORING SYSTEM FOR MATHEMATICAL MODELING IN REGRESSION

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ABSTRACT

As mathematical modeling gains more attention, research and curriculum related to this field have been proposed. However, mathematical modeling is not a fixed instructional content, and students' responses to the same problem can vary greatly. Unlike traditional mathematics problems, mathematical modeling often lacks a standard answer, posing a significant challenge for implementing it in educational settings. Therefore, providing a systematic and intelligent assistance system for mathematical modeling instruction could substantially benefit its implementation in the classroom. The intelligent tutoring system AutoTutor is a dialogue-based intelligent tutoring system (ITS) that has shown excellent instructional effectiveness. Therefore, this study aims to construct a dialogue-based intelligent team teaching system based on AutoTutor for university regression analysis modeling instruction. The research results indicate that this system exhibits good instructional performance, and students have a strong metacognitive awareness of their learning outcomes. The system proves to be particularly helpful for learners who struggle with mathematical modeling.

Keywords: Mathematical Modeling, Auto-Tutor, ITS, Regression

THE EFFECT OF MARKETING MIX ON PURCHASE INTENTION OF HYDROPONIC KIT FOR HDB FLAT RESIDENTS IN SINGAPORE

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ABSTRACT

It is undeniable that growing population rates worldwide have intensified the demand for food prompting interventions for fresh and sustainable farming practices. Singapore aims to produce 30% of its food by 2030. Singapore spent 9.9 billion dollars on food imports in 2022. On the other hand, only about 1% of Singapore's land is used for agriculture. However, Singaporeans are willing to pay 25% extra for organic food. Therefore, the study aims to examine the effect of the marketing mix, namely product, price, place and promotion variables, on the purchase intention of hydroponic kits among the Housing and Development Board (HDB) residents. 80% of Singaporeans live in public housing under the HDB. A quantitative study will be employed with population sampling represented by HDB residents in Singapore. Some of the biggest HDB flats are in Bishan, Bukit Panjang, Bukit Timah, Pasir Ris Street 21 and the Punggol area. The collected data will be analysed by using SmartPLS statistical tool. The study will examine the purchase intention for the hydroponic kit using the Theory of Planned Behaviour framework. The empirical evidence insight will offer marketers, producers, and practitioners to develop more effective marketing strategies to stimulate customers' demand for the hydroponic kit.

Keywords: marketing mix, hydroponic, sustainable farming, purchase intention, HDB residents

THE INFLUENCE OF SHRM ON JOB PERFORMANCE AND THE MEDIATING ROLES OF CHINESE GOVERNMENT POLICES ON INSURANCE COMPANY IN CHINA-A PILOT STUDY

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ABSTRACT

Purpose: This study aims to examine the impact of strategic human resource management (SHRM) on job performance, while also investigating the mediating role of Chinese government policies in the context of insurance companies in China. Effective implementation of SHRM is crucial in enhancing operational efficiency and gaining a competitive edge for corporations. Therefore, adherence to best SHRM practices is expected to yield substantial benefits for enterprises.
Design/Methodology: The study collected data from 20 commercial insurance companies using a structured questionnaire during the COVID-19 pandemic in 2021. Partial least squares structural equation modeling (PLS-SEM) was employed to test a series of hypotheses derived from a theoretical model of SHRM and corporate performance.
Findings: The empirical findings demonstrated a significant influence of all dimensions of SHRM on corporate performance, as well as the impact of government policies. The reliability and validity analyses met the established criteria, with Cronbach's Alpha values for all variables exceeding 0.7, Composite Reliability values surpassing 0.7, and Average Variance Extracted values exceeding 0.5.
Practical implications: The study's findings highlight the importance of considering SHRM and job performance as strategic tools for enhancing overall corporate performance. The development and implementation of effective SHRM practices contribute to improved organizational performance and enable the integration of internal and external knowledge to address human behavior challenges.
Originality/value: This research contributes to the existing literature by shedding light on the relationship between SHRM strategies and job performance in companies. Notably, the study was conducted during the unique context of the COVID-19 pandemic, providing valuable insights into the flexibility and knowledge required in such circumstances.

LINKING BRANDS, INFLUENCERS, AND IMPULSE BUYING VIA STIMULUS-ORGANISM-RESPONSE THEORY: A CONCEPTUAL PAPER.

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ABSTRACT

(**Problem statement**) There is diverse and fragmented research from various disciplines combined with a need for more theoretical and conceptual integration regarding brands, influencers, and impulse buying. While impulse buying is related to financial health, most theories are prone to one discipline. (**Objectives**) This paper aimed to compare and integrate management, marketing, and communication disciplines using Stimulus-Organism-Response (S-O-R) theory. It also aims to propose a multi-directional involving brands, influencers, and well-being consumers, especially impulsive buying. (**Methods**) Using mixed methods with quantitative followed by qualitative, we use Covariance SEM to test the theory and relationship. (**Results or outcomes**) Hopefully, it will identify new relationships or add to existing knowledge that will further enhance the theory. (**Project Implications and Contributions**) The well-being of consumers, particularly impulsive buying, has become crucial with the rising financial expenditure and increasing number of insolvencies aged between 27-42 that formed the biggest group of bankruptcy in Malaysia.

Keywords: stimulus-organism-response theory, brands, influencers, impulse buying, theory synthesis, conceptual paper

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PERCEPTION OF WOMEN LEADERS ON THE CHALLENGES OF INCORPORATINGSUSTAINABILITY AMONG CORPORATE WOMEN IN BANGLADESH

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ABSTRACT

This research is portrayed as a major factor in improving workplace meaning and purpose by emphasising the importance of sustainability among corporate women. Though leadership has been the subject of numerous studies, the impact of sustainability on the careers of women in corporate leadership has received surprisingly little attention. As a result, there are significant knowledge gaps concerning how to foster a business setting that encourages the development of women in leadership roles in Bangladesh's corporate sector. Moreover, there are still large knowledge gaps, especially about how corporate women leaders in the public and private sectors of Bangladesh's economy experience and implement sustainability initiatives. The primary objective of this research is to gain an understanding of the experiences of corporate women leaders working in public and private sector workplaces about the implementation of sustainable practices. Three research questions guided the investigation in this study. So, here are those questions: (1) How do women leaders in Bangladesh perceive the concept of sustainability? (2) What is the effectiveness of incorporating sustainability among corporate women in the Bangladesh corporate sector? (3) What are the challenges of incorporating sustainability within the corporate women leaders? In order to explore a situationof this kind, a phenomenological approach and a qualitative research methodology have been chosen as the most effective approaches. Ten successful corporate women leaders in Bangladesh's public and private sectors will be interviewed for data, which will then be generated. In-depth interviews with the participants will be the main type of data collection used to achieve the study's goals. Each interview session will take one to two hours, be tape recorded, verbatim transcribed, and subjected to hands-on analysis. For this study, several othermaterials have also been used, including library resources, diary entries, journals, and logs.

This study concluded that corporate women leaders' perceptions of the difficulties in incorporating sustainability among women leaders and their exploration of implementation options for sustainability were accurate. In that situation, this research may be used for both academic and commercial purposes.

Keywords: sustainability, corporate women leadership, corporate sustainability, leadership styles.

THE LEVEL OF SDGs COMPLIANCE BETWEEN ISLAMIC ANDCONVENTIONAL BANKING IN MALAYSIA FROM 2017 TO 2020

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ABSTRACT

Financial institutions play a critical role in accomplishing sustainable development goals by 2030by directing public resources locally and coming up with creative strategies to move toward the SDGs. Among all industries, financial firms are claimed to have the most SDG reporters. Due to the coexistence of Islamic and conventional banking in Malaysia, the objective of this study is to compare the SDG levels disclosed by Islamic and conventional banking in the country. The
content analysis technique is used to record the SDGs level according to every 17 goals of 46 financial institutions in Malaysia from 2017 to 2021. Then, an independent T-Test is used for making the comparison. The findings indicate that, from 2017 to 2021, there is no significant difference in the level of SDG disclosure between Islamic and conventional banking in Malaysia.Thus, all financial institutions need to avoid data reporting inconsistencies and dependencies to the group reporting as this will cause stakeholders and users of the information to question the
accuracy of the information.

Keywords: financial institutions, Islamic banks, conventional banks, SDGs.

THE DISCLOSURE LEVEL OF SDGS AMONG MALAYSIAN FINANCIAL INSTITUTIONS FROM THE YEAR 2017 TO 2021

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ABSTRACT

All nations are being urged globally to implement sustainable development goals by the year 2030. It is anticipated that the transformation to a resilient and inclusive global economy willcost $5–7 trillion annually. As a result, financial institutions are crucial to attaining the agenda. The objective of this study is to determine the level of SDGs disclosure among Malaysian financial institutions. The content analysis technique is used to record the SDGs level according to every 17 goals of 46 financial institutions in Malaysia from 2017 to 2021. The findings indicate that, from 2017 to 2021, Malayan Banking Berhad disclosed the SDGs the highest among other financial institutions in Malaysia at the index of 0.79 and the most goal disclosed byall financial institutions in Malaysia is Goal 8: Decent work and economic growth. This research is hoping to assist the government, especially in Economic Planning Unit (EPU) in initiating plans, raising awareness, mobilizing resources and funding for the SDGs, promoting consistency of reporting amongst banks

Keywords: financial institutions, SDG, disclosure.

COMMUNITY REVITALIZATION THROUGH SOCIAL ENGAGEMENT – CASE STUDY OF A RURAL COMMUNITY IN TAIWAN

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ABSTRACT

This article focuses on the regional revitalisation of the Eighteen-Hill Creek community in Shiding District, located on the outskirts of Taipei, Taiwan. This case study discussed the initiatives of community revitalisation. The community invited volunteers from the city to participate in sustainable development activities, further fostering positive and meaningful connections between rural communities and the city. This study applied participatory observation and in-depth interviews as the main methods for data collection. The researcher also used in-depth interviews for data collection. The interviewees shared their motivation, experiences, and reflections on their engagement in the community project and activities. The following is a list of interviewees. Each interview lasted from 20 to 60 minutes. On one hand, this promotes community revitalisation, and on the other hand, it provides urban families with opportunities to engage in volunteer activities.

Keywords: regional revitalisation, talent support, community revitalisation, environmental education

THE IMPACT OF USING DIGITAL TRANSFORMATION ON VALUE CO-CREATION IN A MACHINERY AND EQUIPMENT COMPANY

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ABSTRACT

The rapid changes in the digital economy have posed significant challenges for companies, necessitating the adoption of digital transformation as a catalyst for economic growth. Digital transformation involves the integration of digital technology and existing business models within a company's supply chain. However, companies are facing difficulties in effectively delivering value to customers and co-creating value in their supply chains. Building upon the theory of value co-creation, this study proposes a mechanism for digital transformation and investigates the key factors that drive the development of a successful value co-creation circle within a company's supply chain. To explore this, a case study approach is employed, focusing on a supply chain consisting of five firms. The findings of this study provide valuable insights for companies seeking to foster internal and external linkages, particularly in the context of information sharing. Furthermore, this study contributes to the theory of value co-creation in digital transformation, specifically in the context of linkages among supply chain partners.

ASSESSING THE IMPACT OF PANDEMIC-RELATED FACTORS ON SUSTAINABLE TOURISM IN MALAYSIA: THE MEDIATING ROLE OF GOVERNMENT POLICY

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ABSTRACT

The pandemics such as COVID-19, H1N1, Dengue Fever and other pandemics have profoundly impacted the global tourism industry, prompting a reevaluation of the sector's sustainability. Addressing various research gaps caused by these pandemics, this research aims to assess the impact of pandemic-related factors on sustainable tourism in Malaysia and explore the mediating role of government policy. Based on five hypotheses, this research examined four pandemic-related factors which came from Social Exchange Theory (SET) and Stakeholder Theory. This research reviews the challenges faced by the global tourism industry during the era of the pandemic, with particular emphasis on factors related to sustainable tourism. Subsequently, it analyzes the specific issues confronted by the tourism industry in Malaysia during the pandemic, such as a decrease in tourist arrivals, closures of tourist attractions, and cancellations of tourism activities. The potential implications of these issues for sustainable tourism development in Malaysia are examined. As a mediating role, government policy was explored in addressing the impact of pandemic-related factors on sustainable tourism in this research. It examines the policy measures implemented by the Malaysian government during the era of the pandemic, such as tourism promotion activities, investment in sustainable tourism infrastructure, and the strengthening of health and safety measures. By evaluating the effects of these policy measures on the tourism industry, this research reveals the mediating role of government policy in driving sustainable tourism development. Using the premises of a cross-sectional study, data was gathered from all the players or actors in the tourism industry and the community of the highly rated tourism locations in West Malaysia. The quantitative data generated in this research was analyzed by using the tool Smart PLS. This research propounded Some recommendations to enhance sustainable tourism development in Malaysia. These recommendations included improving health and safety measures, enhancing training and awareness among tourism practitioners, and encouraging the development of sustainable tourism projects. By adopting these measures, Malaysia's sustainable tourism industry can better adapt to future crises and achieve long-term sustainability.

Keywords: pandemic, sustainable tourism, government policy, Malaysia

MODELLING OF TRANSFER OF TRAINING TOWARDSCOST-EFFECTIVENESS ON PRIVATE HIGHER EDUCATION AND MOTIVATION AS A MEDIATOR IN MALAYSIA

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ABSTRACT

Beyond every reasonable doubt, education and training significantly contribute to human development The primary goal of the study is to investigate the Modeling of transfer of trainingtowards cost-effectiveness in Private Higher Education and motivation as a mediator inMalaysia. The focus on the cost-effectiveness of training within the Malaysian education sectorguided by Transfer of Training Model by Baldwin and Ford's (1988) will provide an insight into the influence of transfer of training and what measures can cost-effectiveness be established within organizations. Universities have begun to emphasize the significance of cost-effectiveness in institutions more frequently.

However, training programs are frequently not adequately reviewed to measure investment return. Evaluation of transfer of training is required for the further realize the investment's return made by stakeholders. Motivation being the mediator can be redefined as comprehensivetraining motivation. The "quantitative method" is chosen because the purpose of this study wasto discover factors that influence outcomes. Sample Size: the population was made up of humanresource employees based on the highest qualification Senior executive to vice president fromthe Malaysia Higher Education sector who initiate training for academic's staff 11,802,373 participants (Ministry of Higher Education Malaysia, 2021).

Keywords: Transfer of Training, Cost-effectiveness analysis, Training effectiveness,Motivation

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THE IMPACT OF CONTROLLING SHAREHOLDERS' SHARE PLEDGING ON STOCK PRICE SYNCHRONICITY AND CRASH RISK IN CHINA

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ABSTRACT

The impact of controlling shareholders' share pledging on stock prices has been a subject of increasing discussion in corporate governance. However, there needs to be more research on this topic. This thesis addresses this gap by examining the effects of controlling shareholders' share pledging on stock price synchronicity and crash risk using a sample of 3,568 A-share non-financial listed firms in China from 2013 to 2021. The findings reveal that firms with controlling shareholders' share pledging experience higher stock price synchronicity and crash risk than those without such pledging. The study identifies that shorter margin distances drive higher synchronicity and increased crash risk in pledged firms. The thesis also investigates how controlling shareholders' share pledges affect stock price synchronicity and crash risk. It uncovers that pledging controlling shareholders contribute to increased stock price synchronicity by reducing accounting conservatism. Additionally, they manipulate stock prices through high-percentage stock splits, which lead to crash risk. Moreover, the research explores the moderating effects of ownership features and short-selling on these relationships. The results demonstrate that ownership concentration has threshold effects in the relationship between controlling shareholders' share pledging and stock price synchronicity and crash risk. Specifically, as ownership concentration increases, the adverse influence of controlling shareholders' share pledging on stock price synchronicity and crash risk strengthens. These effects are particularly prominent in firms with high ownership concentrations. Additionally, the relationship between controlling shareholders' share pledging and stock price synchronicity is significant in state-owned enterprises (SOEs), and short selling mitigates this relationship. On the other hand, the relationship between controlling shareholders' share pledging and stock price crash risk is amplified in non-SOEs, with no significant impact from short selling. The robustness tests using alternative measurements and the PSM sample confirm these results. They support the notion that shares pledged by controlling shareholders impede stock pricing efficiency, leading to synchronous stock prices and high crash risk. To counter pledge risk, controlling shareholders tend to reduce accounting conservatism and implement high percentage stock splits. However, these opportunistic practices exacerbate agency problems and impair stock pricing efficiency. The findings suggest that centralisation and privilege strengthen these relationships, while short sellers mitigate them under normal market conditions. Effective corporate governance can alleviate the adverse effects of controlling shareholders' share pledges on stock pricing efficiency.

Keywords: corporate governance issues, pledge risk, shareholders' share pledging, stock price, ownership features and short selling

BLOCKCHAIN IN WINE AND OLIVE OIL SECTOR: THE ITALIAN WE BEST PROJECT TO IMPROVE FARMERS' LITERACY AND AWARENESS

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ABSTRACT

Blockchain technology (BCT) has emerged as a promising solution for transforming sustainably supply chain management in the line of the global Sustainable Development Goals (SDGs). BCT is more and more significant to support the traceability and enhancement of the excellence of Italian agri-food productions, wine and Extra Virgin Olive Oil (EVOO). This new technology aims to guarantee the final consumer maximum transparency and to give economic and competitive advantages to agri-food SMEs. To reach the awareness of farmers on BCT, agricultural extension can be crucial to disseminate new knowledge to agricultural practices through farmer education. In line with this, the Italian WE BEST project (Wine EVOO Blockchain Et Smart ContracT) intends to encourage the spread of a digital traceability system in the wine and EVOO supply chains, based on the use of BCT of simple applicability focusing the analysis on some fundamental dimensions: quality, origin and environmental, economic and social sustainability. The project aims to evaluate the main enabling factors that affect the BCT adoption in the two selected supply chains investigating the propensity of farmers and the consumers' interest in a technology that can guarantee a safe system of traceability and food safety. This work aims to analyze the role of agricultural extension to improve the literacy and awareness of farmers by using gamification, e-learning, audiovisual messages, didactic materials and online continue system of advisory services. Expected results highlight that agricultural extension services and new didactic tools can educate, train and create literacy, awareness and trust in BCT among farmers.

INDONESIA'S GEN Z BUSINESS INNOVATION IDEA TO REDUCE FOODWASTE

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ABSTRACT

Indonesia's Gen Z are people who were born between 1997-2012 which have unique characteristics such as unlimited consumption and concern on the environmental aspect. Theycan have different perceptions, behaviors, and attitudes toward any environmental degradation,especially on waste. Based on the statistical data (BPS, 2020), the highest composition is on the food waste which has 28.3% from the overall waste. This paper focuses on the food wastefrom the perception of business innovation idea from the Indonesia's Gen Z. The scope of theresearch sampling is on the active students (405 people) of Indonesia International Institution for life Science from all the study program, such as Business Entrepreneurship, International Business Management, Food Technology, Food Science and Nutrition, and Biotechnology. Theresearch uses the qualitative approach to gather the information in more detail in terms of theirbusiness innovation idea on the business project proposal (business canvas model) for food waste management. The research framework contains two stages which are coding and in-depth interview based on the students' preferences/cluster idea. The criteria assessments are based ontheir entrepreneurship mindset, creative thinking and problem solving. At the end, this researchcome up with business innovation idea to reduce the food waste.

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ANALYZING PERSONALIZATION EFFECT AS A PURCHASE INTENTION CATALYST THROUGH EXPLORING THE MEDIATING ROLES OF CONSUMER BRAND IDENTIFICATION AND CONSUMER BRAND ENGAGEMENT. A CASE ON SHOPEE INDONESIA

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ABSTRACT

Indonesia's e-commerce market has been the largest in Southeast Asia. Thus, it is crucial for businesses to offer personalized experiences that shall achieve brand loyalty that affect purchase intention. The research aims to fill in how personalization results in achieving purchase intention with mediating perspectives of brand identification and engagement, followed up with influencing factors of brand relationship and loyalty. Structural Equation Modelling is employed to assess the relationship between variables. Result depicts that personalization positively affects brand engagement, not brand identification, brand engagement has positive effect on brand identification and brand relationship that too, positively affects brand loyalty and purchase intention. Brand relationship and loyalty result in positive effect on purchase intention, not brand identification that leads to negative effect on brand relationship, also partial mediation from brand engagement and brand identification towards personalization and brand relationship. Overall, Shopee Indonesia has been maintaining excellent performance through personalization efforts.

Keywords: Personalization, Brand Engagement, Purchase Intention

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BLENDED LEARNING: A NEW CHALLENGE FOR PAKISTANI UNIVERSITY STUDENTS

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ABSTRACT

The aim of this study was to examine the standpoints of BS 4 years program (BSCS) students in Pakistani universities regarding the issues and challenges they face. The study utilized a descriptive survey method with a quantitative approach to quantify and measure students' perceptions and issues related to blended learning in education. The study collected data from 320 students out of 450 enrolled in the BS 4 years program (BSCS) at three public universities in Pakistan in the 2022 academic year. A questionnaire with a five-point Likert scale was used to gather data, which was then analyzed using frequencies, percentages, and diagrams. The findings showed that most students had a positive view of blended learning, but they also encountered various issues, such as lack of time, insufficient skills and support for proper use, lack of training, and unavailability of Learning Management Software (LMS) for technological learning tools. The study suggests the need for the development of institutional policies for the effective use of blended learning in universities and the implementation of training and skill development programs for teachers tointegrate technology in their teaching.

Keywords: Blended Learning, Challenges, Standpoints, Teacher Education.

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