27th World Conference on Applied Science, Engineering and Technology

(WCASET)

Dubai, UAE

18th - 19th March 2020

Organized by

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Preface

We cordially invite you to attend the ***27th World Conference on Applied Science, Engineering and Technology (27th WCASET)*** which will be held at ***Crowne Plaza Dubai – Deira, Dubai, UAE*** on ***March 18th - 19th, 2020***. The main objective of ***WCASET*** is to provide a platform for researchers, engineers, academicians as well as industrial professionals from all over the world to present their research results and development activities in relevant fields of Science, Engineering, Management, Education and Technology. This conference will provide opportunities for the delegates to exchange new ideas and experience face to face, to establish business or research relationship and to find global partners for future collaboration.

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

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

Since December 2019, the Organizing Committees have received more than 180 manuscript papers, and the papers cover all the aspects in Electronics, Computer Science, Information Technology, Science Engineering, Management, Education and Technology. Finally, after review, about 60 papers were included to the proceedings of ***27th WCASET - 2020***.

We would like to extend our appreciation to all participants in the conference for their great contribution to the success of ***27th WCASET-2020***. We would like to thank the keynote and individual speakers and all participating authors for their hard work and time. We also sincerely appreciate the work by the technical program committee and all reviewers, whose contributions made this conference possible. We would like to extend our thanks to all the referees for their constructive comments on all papers; especially, we would like to thank to organizing committee for their hard work.

Rudra Bhanu Satpathy
CEO
Institute for Engineering Research and Publication (IFERP)

Acknowledgement

IFERP is hosting the ***27th World Conference on Applied Science, Engineering and Technology*** this year in month of March. The main objective of 27th WCASET is to grant the amazing opportunity to learn about groundbreaking developments in modern industry, talk through difficult workplace scenarios with peers who experience the same pain points, and experience enormous growth and development as a professional. There will be no shortage of continuous networking opportunities and informational sessions. The sessions serve as an excellent opportunity to soak up information from widely respected experts. Connecting with fellow professionals and sharing the success stories of your firm is an excellent way to build relations and become known as a thought leader.

I express my hearty gratitude to all my Colleagues, staffs, Professors, reviewers and members of organizing committee for their hearty and dedicated support to make this conference successful. I am also thankful to all our delegates for their pain staking effort to travel such a long distance to attain this conference.

A. Siddth Kumar Chhajer
Director
Institute for Engineering Research and Publication (IFERP)

Message from Keynote Speaker

Prof Samih Qaqish

Fellow American Society of Civil Engineers.

Director of Center of Consultation

Dean of Engineering, President Advisor for Engineering Affairs.

University of Jordan , Jordan.

Greetings of peace to all

It is a great pleasure to greet you at this 27th World Conference on Applied Science, Engineering and Technology. This conference hopefully creates a bridge between industrial and academic professionals which leads to create new ideas and new applications to the industry. Hence, this conference will be a perfect platform for Academic and Professors to present their research work to the world so that it can be used for exploitation and prosperity of the mankind. This conference will be an opportunity for researchers and academics to exchange ideas and discuss issues to science progress. Thanking you for your participation hoping this will meet with your expectations.

Samih Qaqish

Samih Qaqish

Organizing Committee

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ABSTRACTS

27th WCASET - 2020

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Legal Development of the Malaysian Consumer Protection Act 1999: 20 Years After

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Abstract:--

Consumer Protection Act 1999 (CPA) came into effect on 15 November 1999. The Act was under study for nearly 6 years before it was tabled before the Parliament in 1999. The CPA comprising of 14 parts and a total of 150 sections. It provides for the protection of consumers, the establishment of the National Consumer Advisory Council and the Tribunal for Consumer Claims. This paper aims to discuss generally the development of the CPA and to examine the extent to which the said Act has improved the position of consumers in Malaysia for the past 20 years. Beside of that, this paper also analyse the developments and effectiveness of the Tribunal for Consumer Claims in achieving its function. Furthermore, its also discuss the effect of amendments of CPA towards protection of consumers. This paper is a doctrinal study which uses content analysis method. Major reference is on the CPA which is the main legislation that provides provisions relates to available remedies for adequate protection of consumers. Therefore, this study is significant in order to consider the future development of CPA so as to ensure the rights of consumers are preserved as well as to strengthen consumer confidence.

New Sustainable Model of Public Private Partnership (PPP) for Indian Road Infrastructure

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Abstract:--

Road network is an essential component for the development of country and for developing countries; lack of funds is the main challenge in expanding the road network. The public private partnership (PPP) models are the best solution to overcome the financial challenges in development. In order to attract private agencies to invest in the project, it is necessary for all the developing countries to design the PPP model very carefully and in such a way that it will sustain over the long run. This paper gives insights of major stakeholders in the PPP model along with their roles and responsibility, various PPP models used in the world, modes of contracting used in India for road development and comparison between them. The Hybrid Annuity Model (HAM) which revitalized the private sector investment and boosted the Indian infrastructure sector is thoroughly studied and problems associated with HAM are identified. In this study, new PPP model is explained for the Indian Road Infrastructure sector which will be better than the existing HAM model over the long run. Also for better management of road assets and maintenance of roads, Output and Performance based Road Contracts (OPRC) model is recommended based on the literature study.

Organizational Justice as Mediator on the Relationship between Breach of Psychological Contract and Organizational Citizenship Behavior: A Study of Nurses in Pakistani Hospitals

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Abstract:--

The aim of the study is to establish the link between the breach of psychological contract and organizational citizenship behavior. The study also explores the mediating role of organizational justice between the breach of psychological contract and organizational citizenship behavior using the social exchange theory. The study was conducted on nursing staff working in leading hospitals of Islamabad, Pakistan. Data was collected using the questionnaire by measuring each variable on a five-point Likert scale. The data were analyzed using the statistical package for social sciences (SPSS) version 22.0. The findings of the study indicate that breach of psychological contract is negatively associated with organizational citizenship behavior. The results also indicate the mediating effect of organizational justice on the relationship between breach of psychological contract and organizational citizenship behavior. Therefore, in order to sustain organizational citizenship behavior amongst nursing staff, there is a need to bring changes in the organizational setup in such a way that breach of psychological contract would be minimized.

Index Terms

Breach of Psychological Contract, Organizational Citizenship Behavior, Organizational Justice, Nurses

Implementation and Adoption Decisions in Technology Adoption Initiatives

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Abstract:--

Technology has already been recognized to play a very significant and advantageous role on how human beings can live more conveniently. However, there are still areas in the community that need more evident and effective technology adoption and implementation decisions and these include the utilization of smart grid technology. This study aims to analyze how technology adoption and implementation decisions have been missing or lacking especially in utilizing smart grid technology in every country, including in the U.S. and in India. Through gathering the most relevant and credible studies, the current study was able to critically analyze how technology adoption and implementation decisions have been very challenging in this particular field. The findings showed how utilizing smart grid technology has been really challenging due to several factors such as policy and regulations, insufficient fund, and lack of awareness of the consumers. That being said, this study also provided proposed research questions that can be used in the future studies to be conducted.

Bending Moment Multiplication Factor for AASHTO Live Loads Adopted in Jordan for Four Equal Spans with One Lane

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Obada Ibrahim Hatamleh, Graduate student University of Jordan.

Abstract:--

The main objective of this study is to determine a fixed multiplication factor for AASHTO LRFD that will be recommended to give the same result of bending moments due to 1.8 AASHTO LFD for four equal continuous spans with various span lengths of 20, 25, 30, 35 and 40 m.

The bridge models will be analyzed using the CSiBridge software. This study contains twenty finite element bridge models with one lane. Models are subjected to AASHTO LFD and AASHTO LRFD loadings to obtain the girders moments.

For one-lane models, bending moments, values -at exterior and interior girder - increase when the span length increases. Whereas, bending moment values for AASHTO LFD are higher than those for AASHTO LRFD. The maximum multiplication factors for one lane were obtained when span length equals to 20 m at second interior girder, such that bending moment factor is 1.35.

In case of live loads, the maximum factor for one lane are obtained in span length of 20 m at second interior girder, where the bending moment factor is 1.70

Key word:

AASHTO specification, AASHTO LAFD LFD Loadings.

Prediction of the Mechanical Properties of Stainless Steel 304 Subjected To Fatigue Loading Using Artificial Neural Network

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Abstract:--

In the present work, I use artificial neural network (ANN) approach to develop a tool for prediction of the mechanical properties - elastic modulus and ultimate strength- of fatigued stainless steel 304 Specimens. The specimens have been subjected to cyclic loading (up to 80,000 cycles) at several values of maximal stress (**σ** max). At low values of **σ** max as well as at the low number of cycles no significant changes in mechanical properties. As the number of cycles and **σ** max grow up, reduction in Young's modulus and in ultimate strength of the specimens takes place due to formation of the microcracks. Such experiments are difficult to implement for different materials, different **σ** max, and different number of cycles, so the aim of this paper is to build an ANN model to expect the mechanical properties without implement the experiment. Very good agreement is achieved between the ANN model and the experimental data available.

Index Disclosure of Public University Reporting: The Case of Malaysian University

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Abstract:--

This study aims to identify the quality of annual financial report prepared by various universities in Malaysia. Digital reporting on financial report is chosen because nowadays the internet has become a key source of corporate information. Thus, this study will be focusing on both public and private universities that operate in Malaysia and have published their annual financial report online. Annual financial reports from the 7 public universities and 15 private universities will be collected through their official website respectively to be used as the data to conduct this research. The data collected will then be analysed by using the 56 items of disclosure index that have been developed based on the framework of both Modified Accountability Disclosure (MAD) index and MGTC index to determine the disclosure levels of the financial reports. The findings indicated that the level of disclosure ranges from 28.57 percent (16 items) to 76.79 percent (43 items). At the end of the research, it is recommended that Malaysian universities should disclose their financial reports in accordance with the established index for better quality.

Investigating Applications of Heat Recovery Systems in Aluminum Smelters in the UAE

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Abstract:--

Around 80% of the world total energy consumption is mainly derived from fossil fuels including coal, oil and gas. The great dependency on these non-renewable resources contributes to the generation of greenhouse gases (GHGs) which derive the climate change. Since the development of renewable energies, the global renewable power capacity has reached 1,179 gigawatts according to IRENA and 75% reduction of GHGs could be achieved through using these sources. The United Arab Emirates is one of the largest energy consumers per capita, and about 20% of the country's total energy production is consumed by the aluminum industry. Around half of the energy input in the aluminum industry is lost as heat. The adoption of renewable energy sources and recovery of waste heat in aluminum industry would result in decreasing the overall cost, reducing greenhouse gas emissions and increasing the overall efficiency of the process. This paper presents a review and evaluation of waste heat-to-power conversion systems. The most appropriate system is selected based on the efficiency and the characteristics of the waste heat from the sidewalls of aluminum smelter, and the potential of heat to electricity recovered is estimated. The resulting energy efficiency improvement is estimated to reach 5.2%.

A Proposed Conceptual Framework on User Experience Self-Directed Learning for Tawaf Practical Mobile Apps using Mixed Reality Serious Game

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Abstract:--

Almost every months each year hundred thousands or millions of Muslims come to Makkah to perform umrah. In Malaysia, many umrah agencies provide face-to-face umrah courses as a preparation before the pilgrims leaving for umrah. However, the course to the pilgrims still conducted using traditional method. The umrah speaker/facilitator needs to bring the Kaabah object while the learners faced problems in reviewing the course when they returned home. The teaching and learning style of umrah course needs improvement with the help of the combination of existing or latest technology tools. In this modern world, the mobile devices is the suitable alternative learning tool to fulfill the pilgrims (learners) need. Hence, this paper presents a proposed framework for the development of mobile apps which focused on the self-directed learning for tawaf practical using mixed reality (MR) and serious game elements. This framework includes six major components; content, mixed reality (MR) technology, serious game (SG), self-directed learning (SDL) method, motivational Flow Theory (FT) and user interactions (UI). The mixed reality environment is chosen in this framework to provide a realistic experience especially for the young pilgrims in tawaf learning. The Technology Acceptance Model (TAM) and User Experience Design (UX-D) is applied to develop this mobile apps. The focus is only on how to perform tawaf. The involvement of motivational theory could boosted-up the spirit of self-learning with the correct instructional given in the apps. This can bring a high contribution to those who conducting the umrah course, the pilgrims (learners) and a commercial value to Tabung Haji itself.

Key words:

Mixed Reality, Serious Game, Self-directed Learning, User Interaction, Flow Theory, TAM, UX-Design.

Robots Challenge

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Abstract:--

Robots are taking over the world from more than a century ago, and are making radical changes to concepts and humans expectations about things. The challenge was: Will robots replace humans? With its capabilities in 2019, the new challenge is: Can we make what the robot cannot do? KUKA is a robotic arm that can construct any structure with any shape or size with high precision. The idea started at the workshop that I directed and organized at the university of Sharjah depending on my previously worked on similar artworks. 22 hardworking students accepted the challenge and decided to work with maximum capacity to make it happen. It finally took place in the Architectural Engineering department main lobby for a period of two weeks. The produced wall is 2.2 m high, and 7.1 m long, constituted from 1430 blocks. The process started with trying to produce a model that answers questions like: How will we design? How will we fabricate? What material can humans use to challenge robots?; The wall developed into an interactive learning experience from day 1 when students had questions in their heads until today, not just for the working team, but also to other students by asking questions, taking pictures, touching, and observing. The program used to design was Rhinoceros 3D v6, a 3D computer graphics software, with a scripting plugin called BrickDesign. The design was produced by trial-and-error using attraction points. For the materials, Styrofoam was used because of its cheap, light, and easy to handle, and wooden skewers were used to nail the blocks together. To fabricate the design, sections were taken from the design, printed, and used as a reference for the Styrofoam blocks.

Energy and Economic Assessment of Small Chp in China: Comparison between Internal Combustion Engine and Gas Turbine

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Abstract:--

China is the world's leading consumer of energy. Co-generation is considered an effective way to reduce energy consumption and environmental pollution. Small Combined Heat and Power (CHP) systems can fulfill the electrical and thermal consumption of individual buildings, such as shopping centers, hospitals, sports centers, etc. Internal combustion engine (ICE) is the most established and widespread system for the combined production of heat and power. Gas turbines (GT) are a relatively new technology for CHP applications. These two technologies are characterized by different energy efficiency, annual availability, investment cost, operating and maintenance costs, etc. In order to compare the main features of ICE and GT technologies, in particular the small size models commercially available on the market, a research benchmark has been used. The data so far collected are presented in this paper, providing energy and economic comparison between ICE and GT technologies, analyzing the energy production and the cost trend over the service life.

Health and Environmental Impacts of NOx: a technology that can achieve an ultra low level of NOx (Oxides of nitrogen)

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Abstract:--

The damages to human health and environment result because of various compounds and derivatives in the family of nitrogen oxides, including nitrogen dioxide, nitric acid, nitrous oxide, nitrates, and nitric oxide. Nitrogen oxides in the atmosphere contribute to photochemical smog, to the formation of acid rain precursors, to the destruction of ozone in the stratosphere and to global warming. On the contrary, an increase in Ozone (O3) concentration related to NOx emissions has been observed analysing chemical and transport processes in the troposphere. Ozone can be transported by wind currents, and can cause health impacts far from original sources. Ground-level Ozone (Smog) is formed when NOx and volatile organic compounds (VOCs) react in the presence of heat and sunlight. Children, people with lung diseases such as asthma, and people who work or exercise outside, are susceptible to adverse effects such as damage to lung tissue and reduction in lung function. Other impacts from ozone include damaged vegetation and reduced crop yields. These O3 concentration changes, combined with geographically specific demographic data have been used to estimate the increase in mortality and respiratory illness that results from that increase in O3. Over the past 150 years, global emissions of nitrogen oxides into the atmosphere have been increasing steadily. A significant amount of the nitrogen oxide emissions is attributed to combustion of biomass and fossil fuels. This paper reviews existing and some emerging technologies for reduction of NOx emissions from combustion sources and examines the prospects of these technologies for meeting stricter emissions regulations. Both combustion modification and post-combustion methods for NOx reduction are considered. The important role of research on the chemistry of nitrogen oxides in combustion gases in development and optimization of emissions control techniques is described.

Virtual Reality (VR) and Augmented Reality (AR): a research study in new training opportunities in Aviation

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Abstract:--

A new generation of learners, by some authors named the Next Generation of Aviation Professionals (NGAPs), are entering the aviation industry today. They are digital natives compared to digital immigrants and to engage and meet their needs, visualization of complicated, large data is helpful for understanding, analyzing and training. Although virtual and augmented reality (AR) are not new overlay digital content in our real-world environment and promises to transform the way we train NGAP to operate and maintain aircraft. This can provide a mobile cost-effective solution to enhance real-world environments, create virtual simulations, accelerate learning and increase retention. This paper firstly explores the technological issues involved in nowadays-digital culture and then it considers how pilots' training and aviation science lessons could be designed incorporating relevant and interactive software into a sound pedagogical strategy for aviation students and professionals. The "peep hole" approach allows focusing the attention of the pilot on critical issue even on full flight simulators on type conversion or periodical checks. This approach is particularly efficient in critical situation simulation and correction. The possibility to wear Head Worn Displays makes it possible to add virtual symbols to highlight positions and sequences. This paper describes how to make it starting from Artificial Intelligence learning methods. This approach is particularly important when training takes place in full flight simulators where cost is high and time limited.

Parametric - Nature Obsession

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Abstract:--

Over the years, nature has inspired artists and designers and is being reflected in many forms starting from wall paintings up to building facades. With the development in technology, it is important to understand how to use computer programs to portrait the elements of nature and integrate them with the design process. Parametric design is preferred by designers for its relationality, contributing towards versatility, ensuring flexibility, simplifying diversification and for presenting programatic solutions. As is seen in a number of areas, we have also begun to encounter the use of parametric designs produced with parametric design systems and wooden materials in urban landscaping. The purpose of this papers is to examine the upper cover application and elements generated by taking advantage of parametric designs from wooden construction materials in urban landscaping areas, and examine the impact of wooden material characteristics while generating behavior and parametric structures of technologies. Parametric installation (table-stand-bench) was suggested to be as a final exercise of the parametric design course at university of Sharjah / department of architectural engineering, where students applied cumulative understanding and skills from the course to develop a performative system for the studio project – an stand and seating system. Where they began by defining the needs and intent for the project proposal, including location, activities, and material. Then develop the proposal using the tools they have learned in this course.Before beginning to design, it was important to think about the method and framework for the system:

Structure-Skin + Materials + Variation (external force) = System

Parametric algorithm was created to vary the fluidity of the shape, and optimization of material used. Benches and tables are CNC cut, fabricated out of 18mm thick wood slices.Delaunay triangulation (DT) is one of the final built results as a technique for creating a mesh of contiguous, nonoverlapping triangles from a dataset of points. This triangulation was named after Boris Delaunay for his work on this topic from 1934. Delaunay triangulation is used in furniture production. Rhinoceros 3D v6 with the plug-in grasshopper were used to develop the digital fabrication. Contour lines were generated by grasshopper, allowed the use of wood panels that were CNC milled and connected using aluminum rods. The table was then topped with glass to form a flat surface that can be utilized. Another built project by the student "The RAK coffee table" is inspired by the beauty that can be found in the United Arab Emirates. Extracted from the topographic map of the famous mountainous region of Jebel Jais and its roundabouts in Ras AlKhaimah, the design process started. Rhinoceros 3D v6 with the plug-in grasshopper were used to develop the digital fabrication. In grasshopper, the selected topographic image was uploaded to create a height field, the contour lines were then drawn across the vertical axis to add the topography lines. Regarding the physical fabrication, the contour lines, generated by grasshopper, allowed the use of wood slabs that were CNC milled and stacked to give the desired effect. The table was left open on the sides to allow the usage of its interior as shelves for decorative elements and was topped off with glass to form a flat surface that can be used as a coffee table.

The Impact of Celebrity Endorsement on Customers' Purchase Intention

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Abstract:--

This study investigates the impact of celebrity endorsement on customers' purchase intention. Celebrity endorsement is a phenomenon that has been widely used by businesses to targeting their potential customers. Employing a quantitative research design, 125 sets of completed questionnaire have been collected and then analysed by Statistical Package for the Social Science (SPSS) version 20. Celebrity endorsement is made up by four pillars which are credibility, attractiveness, product/celebrity match-up and lastly meaning transferred. The findings indicated that a celebrity who has attributes such as credibility, attractiveness and meaning transferred which are variables in this research will positively influenced customers' purchase intention. Based on multiple regression analysis result, meaning transferred is the best predictor among all variables. This research indicates that customers can get more attracted on celebrity endorsed advertisement and ultimately leads the them to recall the endorsed brand much easier because of the appearance of celebrity on those advertisements.

Keywords:

Celebrity endorsement, credibility, attractiveness, celebrity match-up, meaning transferred, purchase intention.

From 2D Drawings to VR-enabled BIM Interactive Modeling: Developing a Building Construction Systems Course at the UAEU

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Aysha Al-Sheebani, United Arab Emirates University
Fatema Al-Zaabi, United Arab Emirates University
Maitha Al-Nuaimi, United Arab Emirates University
Mona Megahed, United Arab Emirates University

Abstract:--

The transformation from traditional 2D (2 dimensional) drawings into 3D Building Information Modeling (BIM)-enabled Virtual Reality (VR) Interactive Models is gaining momentum in the architectural, structural, and construction industries. On the other hand, the results of related research about improving construction education through the use of virtual reality suggest that students can understand construction projects much better when advanced visualization tools are used. Accordingly, VR tools has been rapidly recognized and implemented in Construction Engineering Education and Training (CEET) especially when combined with BIM. The research, funded under the SURE+ Projects Program by the UAEU, examined the combination of both BIM and VR techniques, in one of the Building Construction Systems Courses as a pilot investigation for applying the new tool in all Building Construction Systems Courses, that is currently traditionally taught at the Abet-Accredited Architectural Engineering (AE) Program at the United Arab Emirates University (UAEU). Through a three phases investigative process, the research project has defined the potentials and the obstacles that were associated with the pilot implementation of a combined BIM-VR method in teaching the topics of the Arch 316 Building Construction Systems Course. The outcomes of the research proved that this new interactive tool has significantly enhanced the attainment of 2 out of the 4 Course Learning Outcomes (CLOs) of the examined course, namely, 'Explaining construction methods and building construction systems', and 'Expressing graphically and technically building materials and construction systems and methods'. Based on the attained results, adopting the VR-enabled BIM tool is highly recommended in other Building Construction Systems, Building Design Courses, and Graduation Projects, at the AE Department, UAEU. This would much better prepare the AE Program graduates to the industry and significantly increase their employability levels where they can contribute to the current and future advances in the field of building construction and other design areas.

Mutual Fund: The Success and Growth in India
(A comparative study of India and other Asian Countries.)

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Dr. Simirina Singh, Professor, Department of MBA, SGI, Bhopal

Abstract:--

In India investors have enormous number of options to invest in various financial opportunities. The large number of traditional methods of investments for an individual, such as investment in bullions, small savings, fixed deposits, investments in government securities etc. are popular and considered as safe and secured investment. But as the increase in the financial awareness an ample of beneficial investment options offered to investors, out of these, Mutual fund is one of the most preferred and promoted by Government. The main objective of the study is to critical analyze the success and the growth of Mutual fund in India. The first part of the paper will cover the introduction and journey of Mutual fund in India, objectives, review of literature and research methodology. The second part of case study will consist of critical Analysis of Mutual fund growth & its success and comparative study with other Asian countries like, Pakistan, Malaysia, and Bangladesh etc. The last part of paper highlighted the limitations, findings, suggestions & recommendations and conclusion.

Key Words:

Securities, Mutual fund, SEBI, AMFI, ELSS, Liquidity, and NAV.

Factors Enhancing Young Consumers Satisfaction of Mobile Wallet Services in Malaysia

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Abstract:--

As the adoption of cashless transactions continues to grow, the mobile wallet has become prevalent in human daily life because it serves as an alternative payment option to replace the traditional payment method. Therefore, young consumers prefer to use mobile wallet to make transactions instead of carrying around so much of cash and heavy coins to make payments for their purchases. Currently, there are many mobile wallet choices in Malaysia market, however, mobile wallet has not grown as fast as expected since mobile wallet is not widely adopted by consumers to make payment due to their concern on satisfaction. Hence, this study aims to investigate the relationships between perceived ease of use, usefulness, trust, security and young customers' satisfaction of mobile wallet. A total of 200 samples were collected from undergraduate students in Azman Hashim International Business School at Universiti Teknologi Malaysia (UTM) by using quantitative method. Purposive sampling technique was used to select respondents who had used mobile wallet for payment. Statistical Package for the Social Sciences (SPSS) was used for data analysis. The findings showed that perceived ease of use and security have a positive and significant relationship with young customer satisfaction of mobile wallet. In contrast, there are two hypotheses which are usefulness and trust are not significantly related to young customer satisfaction of mobile wallet. In conclusion, the finding of this study is expected to inspire Malaysia's mobile wallet service providers to recognize specific key factors that are vital to influencing young customers' satisfaction with mobile wallet.

Keywords:

Mobile Wallet, Perceived Ease of Use, Usefulness, Trust, Security, Young Customer Satisfaction

Feature Extraction with MLP and CNN in Writer Identification

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Abstract:--

In this work, features from the handwritten documents are extracted using two methods, namely, multilayer perceptrons and convolutional neural networks. Features extracted from these two models were used to define the states of a hidden markov model. Performance of the models were tested on two datasets, namely, VTU-WRITER and IAM datasets. The VTU-WRITER dataset is a custom created dataset by collecting the handwritten documents exclusively for this research work. The performance of the two models namely, MLPHMM and CNNHMM are compared with the hidden markov chain model that has singular values as the features. Baum-Welch algorithm was used to determine the parameters of the models.

Keywords:

Hidden markov models, Multi layer perceptron (MLP) model and Convolutional neural network (CNN) model, Writer identification.

Forgery Detection Using Forward Quantization Noise Method

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Abstract:--

In this work, the presence of forgery was detected using the forward quantization noise method. Required threshold to achieve maximum sensitivity, specificity and precision was derived for JPEG images. Seam carving dataset with a quality factor of 75% was used in order to demonstrate the method. The threshold was varied from 0.005 to 0.0005 and the corresponding maximum sensitivity, specificity and precision were estimated. It has been demonstrated that a threshold of 0.0005 yields that highest maximum sensitivity, specificity and precision.

Index Terms

Image forgery detection, JPEG, Forward quantization noise

Moderating Effect of Cynicism among Malaysian Consumers towards Purchase Intention of Energy Efficient Vehicle

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Abstract:--

This paper highlights the Environmental Responsible Behaviour (ERB) model consisting of materialism, environmental belief and environmental concern effects on the purchase intention of energy efficient vehicle (EEV). A self-administered questionnaire was distributed to 314 respondents. Data collected has been analysed using Partial Least Square-Structural Equation Modelling (PLS- SEM) approach. This empirical study posits a causal model of ERB model in respect to EEV purchase intention among Malaysian consumers. Findings showed that the moderating effects are significant among cynical consumers in the proposed theoretical framework; a factor that has been overlooked in previous studies. Automakers and local authorities may use the findings to educate Malaysians regarding the EEV purchase.

Index Terms:

Cynicism, Energy Efficient Vehicle, Environmental Belief, Environmental Responsible Behaviour

The Earth's Magnetic Field and Azimuth Variations of The Electromagnetic Component of Cosmic Air Showers at Ground Level

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Abstract:--

The electromagnetic component of extensive Air showers, created when a cosmic ray particle enters the top of the atmosphere, is highly dependent on the density of the atmosphere, the magnetic field of the Earth, and, consequently, the azimuthal direction of these particles. When a high-energy cosmic ray particle enters the top of the Earth's atmosphere, it interacts with air molecules and creates a cascade of secondary charged particles. This process will be repeated until the energy of the induced particles is not enough to cause more interactions. Even though, these particles can make it through the atmosphere to the ground, they will be deflected with the magnetic field of the Earth. Therefore, a good understanding of the effect helps us to better understand their propagation in the atmosphere and identify their first interaction point. In addition, cosmic air showers that arrive first to the detection level experience less attenuation in the atmosphere than charged particles arriving later, which creates a variation in the density of the detected particles on the ground.

In this paper, we discuss the effect of the magnetic field of the Earth and the zenith dependence on the electromagnetic component of air showers electrons and positrons at the surface.

Index Terms

Cosmic Rays, Geomagnetic Field, Electron, Positron.

Nano and Microscale ZnO as a Platform to Study Antibacterial Action

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Rohan Maheshwari, Texas Academy of Mathematics and Sciences
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Abstract:--

Zinc oxide (ZnO) is a II-VI semiconductor, with a direct wide bandgap of ~ 3.4 eV. It is widely accessible and in the micro- and nano- scale, it has a combination of properties that makes it a key technological material used in many industries such as optoelectronics, cosmetics, food, and medicine. Due to the high surface to volume ratio and to the unique chemical and physical characteristics in the micro- and nano scale, ZnO nanoparticles have shown remarkable antibacterial activity at very low concentration. But the fundamental physical mechanisms behind this action is still relatively unknown. This work builds a platform upon which a study of unique surface properties of micro- and nanoscale ZnO can be studied in conjunction with antibacterial action. Morphologically different ZnO micro-crystals were grown using a bottom-up hydrothermal chemical method. Minimum inhibitory concentration assays preliminary results suggest some influence of surface polarity on antibacterial action. Also, surface photovoltage transitions were successfully detected.

Keywords:

Antibacterial action, Surface photovoltage spectroscopy, Surface polarity, ZnO.

Image and Signal Restoration: A Review

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Abstract:--

Digital image processing deals with analysis, feature extraction and restoration of an image. Now day's image restoration is an important step for improvement in image. The restoration aims to reconstruct image which degraded on prior information. So the objective of image or signal restoration is to remove blur in image with the help of deblurring techniques. There are many techniques are available to recover the image by simply removing the degradation added during acquisitions like variable pixel value, noise, motion etc. These techniques are applicable to both spatial as well as frequency domain. Base of Image restoration is probabilistic models of image degradation. Hence It has wide scope since trends to recover image look best in appearance. In this paper, overview discussion of image restoration, different techniques of image restoration, types of various filter used for analysis was done.

Keywords:

Image restoration, blur, Gaussian noise, wiener filter.

Implementing Ambidexterity in Project Management Organizations: A Review of Literature

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Abstract:--

There is a growing amount of projectization in organizations. Projects are used as a vehicle to deliver organizational business. There are unique challenges in terms of management of resources and project portfolio management in a project-based organization. One of the management philosophies that have been gaining popularity in last 20 years is ambidexterity. It is defined as "….the ability to simultaneously pursue both incremental and discontinuous innovation and change… "(Tushman and O'Reilly 1996, 24).

Ambidexterity has been gaining popularity with project organizations both in public and private sectors all across the world. However, in order to implement it, we still need a better understanding of what it entails. This paper is going to present a review of literature to explore a range of aspects associated with ambidexterity. These aspects will then highlight the major challenges and opportunities associated with the implementation of ambidexterity.

Keywords

Ambidexterity, Projectization, Incremental Innovation and Discontinuous Innovation

Hybrid Modeling With Inception Based HMM for Face Recognition

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Abstract:--

Since HMM models need observational feature vectors as input, the encoding of inception models are used in the HMM as observational vectors, which is very novel in the current face recognition methodologies. The accuracy has improved with this approach. SVD based linearly combined feature input models, CNN and CNN inception models, SVD and deep learning based hybrid models are trained and tested for performance on the ORL dataset. Two samples of data sets are drawn from the ORL dataset to create two distinct training and test sets. The performance of the models are measured on the both the datasets. The performance of all the models are compared with the base line model SVD based HMM. The accuracies improved when the proposed hybrid model based on deep learning and HMM was used, to 99.5% and 100% for ORL-Set 1 and ORL-Set 2. Finally, important conclusions of the research work are presented.

Index Terms:

Convolutional Neural Networks, Inception Models, CNN, Face Recognition, Hybrid Models in Face Recognition

Design and Prototype of a Biosignal Simulator

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Abstract:--

The proposed work is based on the design and development of a low-cost biosignal (ECG) simulator by artificially constructing standard ECG signal along with multiple arrhythmias that include Brugada syndrome which is considered to be one of the rarest and not present in simulators available in the market. Since Cardiovascular malady is one of the prime causes of death in developed countries, the electrocardiograph (ECG) instrument is considered to be a significant diagnostic device available in the medical field. A standard electrocardiogram consists of the P wave, PR interval, QRS complex, ST segment, T wave, QT interval, and U wave. Therefore minute variation in these waves, result in cardiac disorders. By using an ECG simulator, the vital signs of the heart can be simulated to test the equipment before using it in contact with the patient. Typical simulators available in the market make use of stored ECG signals. Therefore, this article examines the construction of ECG signals without storing data using Processing 3 software and Atmega 328P microcontroller.

Index Terms

Biosignal, Diagnostic devices, ECG generation, Electrocardiograph, Simulator

Microfludic Channel for Early Detection of Myocardial Infarction

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Abstract:--

Myocardial infarction (MI) is a condition that causes permanent damage to the myocardial cells of the heart. The key to preventing such damage is early detection of the condition and taking early prevention measures. Current diagnostic procedures have limitations such as lack of awareness in patients, underestimating the symptoms, inaccurate results in case of electrocardiograph (ECG), high cost and demand of trained personnel. The aim of this project is to design a microfluidic channel lab- on- a chip for early detection of MI biomarkers that is sensitive, affordable, and easy to use. The design uses immunomagnetic assay combined with fluorescence for the detection of cardiac troponin (cTnI and cTnT), the most specific of all cardiac biomarkers. Troponin concentration in the bloodstream is extremely low (~0.4 pmol/L), therefore, it requires a highly sensitive assay. Moreover, early detection cannot be guaranteed considering that the elevated troponin can be only detected after 4 hours of myocardial damage.

Performance Prediction for Counter Crossflow Heat Exchanger

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Abstract:--

In this work, design graphs, tables, and curve fit equations describing the performance of counter cross flow heat exchanger was developed. Performance equations derived previously to study the temperatures at intermediary passes and at the discharge were solved using MATLAB. The results from the MATLAB were used to generate design graphs. Design graphs describe the performance of the heat exchanger in terms of key dimensionless parameters. These parameters are heat exchanger effectiveness, capacity rate ratio and number of transfer units. Design graphs aid engineers in choosing an appropriate NTU and capacity rate ratio for the heat exchanger. Likewise, correction factors were developed to accommodate partially mixed conditions in the heat exchanger.

Keywords

counter cross flow heat exchanger, design graphs, correction factor

Performance Prediction for Parallel Crossflow Heat Exchanger

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Abstract:--

The work considers the performance predictions of parallel cross flow heat exchanger. The performance is expressed through design graphs, curve fit equations and tables. Performance equations developed in a previous work were solved using MATLAB. Using the results, design graphs illustrating the performance of heat exchanger was developed. Design graphs represent the heat exchanger's performance in terms of vital dimensionless parameters. They are capacity rate ratio, number of transfer units, and heat exchanger effectiveness. Choosing appropriate capacity rate ratio and number of transfer units is critical during the design process and is essential for the proper functioning of the heat exchanger. From design graphs, curve fit equations were developed to estimate the heat exchanger effectiveness as a function of number of transfer units and capacity rate ratio.

In cross flow heat exchangers, fluid motion is usually treated as either mixed or unmixed. However, in real life, partially mixed conditions can exist due to various reasons. For addressing partially mixed conditions, correction factors were developed in this work.

Keywords:

Parallel Cross Flow Heat Exchanger, Design Graphs, Correction Factors

Performance Prediction for Pure Crossflow Heat Exchanger

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Abstract:--

The project work deals with developing design graphs, curve fit equations and correction factors for pure cross flow heat exchanger. The heat exchanger is a typical gas-liquid heat exchanger. Performance equations established in previous studies were used in this work. A MATLAB model was developed to solve performance equations. The results from MATLAB were used to generate design graphs, tables and curve fit equations. Design graphs describe the performance of the heat exchanger in terms of important dimensionless parameters. Also, correction factors were developed to accommodate partially mixed conditions in the heat exchanger.

Keywords

pure cross flow heat exchanger, design graphs, correction factors

Re-adaptation and Reinforcement of the Traditional Spaces for Socio-Physical Continuity and Introduction of Technology for Economic Vitality in the Historic Place of Dubai

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Dr Harpreeth Seth, Associate Professor, Heriot Watt University
Dr Yasemin Neilsen, Associate Professor, Heriot Watt University

Abstract:--

Narrow pathways, densely built forms and compact spaces are the eminent features of the traditional settlement of the Gulf region. However, due to the unprecedented urbanization, , ecologically sustainable and human-scale development is being faded. On the contrary, the adverse effect is visible in the traditionally developed commercial settlement such as the Gold souk area and traditional trading markets area of Al Ras district, Deira Dubai. After the 1960's master plan, this historically developed district lost the essence of the traditional interactive car-free space, disconnected from the rest of the city. The tourists find difficulty in way-finding within the traditional space. The aim of the paper is to examine the affected spaces of the historic district of Deira Dubai with the historic site of Bur Dubai, to find a solution to readapt the social interaction spaces for socio-economical prosperity. In addition, the paper will shed light on the advantages of technology to reinforce economical prospect and attract more tourists as well as the residents. In the methodology, literature review on placemaking in a historic place, the GIS map and the photographic image are used to analyze the traditional spaces for social interaction and economical extension.

Keywords:

Traditional Space, Connectivity, Technology

Phenolic Acid Derivatives: Synthesis, Characterization and Evaluation of Antioxidant Activity

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Abstract:--

Oxidative stress has been incriminated in the physiopathology of many diseases, such as diabetes, cancer, atherosclerosis, and cardiovascular and neurodegenerative diseases. There is a great interest in developing new antioxidants that could be useful for preventing and treating conditions for which oxidative stress is suggested as the root cause. Natural products containing the phenolic or polyphenolic moiety have shown to possess a variety of biological activities. The natural product curcumin possessing a polyphenol moiety is a popular synthetic target but their biological activity remains underexplored. Herein, a series of compound containing the 2-methoxyphenol moiety and another series containing 2-methoxyphenol α, β unsaturated skeleton are synthesized with the aim of studying their potential anti-oxidant activity. The synthesized derivatives were characterized by using 1H NMR,13C NMR, FT-IR and elemental analysis spectroscopic techniques.

Study on Sustainability of Baba Nyonya Tourism Heritage Culture in Melaka

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Abstract:--

Malaysia is experiencing the tremendous tourism development. Diverse ethnic differences provide huge opportunities for Malaysia to showcase its uniqueness in architecture, traditional costumes, handicrafts, music, dance which reflects the colorful heritage and culture mixed and most of these cultural heritages are recorded in various formats too. In general, there are lack of studies addressing sustainability of cultural heritage especially in Baba Nyonya culture. Previous studies highlighted proper preservation, efficient management and aggressive promotion as factors to sustain cultural heritage. This study aims to analyze and discuss the status, issues, strategies and challenges of local community involvement to sustain Baba Nyonya culture in Malacca. Face to face interviews were conducted across six shareholders of Baba Nyonya culture including museums, restaurants, travel operators, government agencies and local communities. There are four core factors that affect the decision-making process in Baba Nyonya sustainability includes environment; economic; culture and social factors. It was found that there are arise of conflicts in the management of cultural heritage tourism in Malaysia faced by stakeholders such as travel and museum managers, government and local communities.

A Survey on Reactive, Proactive and Hybrid Routing Protocol for FANETs

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Abstract:--

In recent years the capability and role of Mobile Adhoc Networks have rapidly evolved. Their use in emergency, natural disaster, military battle fields and UAVs is getting very popular as a result of cutting edge technologies in networking and communication. Using the concept of MANETs new networking paradigms like VANETs and FANETs have evolved. FANETs are comparably new concept of MANETs and it has capabilities to tackle with situations where traditional MANETs cannot do so. Due to high mobility and fast topology change in FANETs, this is highly challengeable for researcher to implement routing in FANETs. Routing protocols play a dominating role in enhancing the performance of adhoc networks. Routing protocols can be classified into three different groups: proactive routing protocols, reactive routing protocols and hybrid routing protocols. In proactive routing protocols such as DSDV and OLSR, the routes to all the destination (or parts of the network) are determined at the start up, and maintained by using a periodic route update process. In reactive protocols such as AODV, DSR, routes are determined when they are required by the source using a route discovery process. Hybrid routing protocols combines the basic properties of the first two classes of protocols into one. In this paper we analyse and survey on reactive, proactive and hybrid routing protocols for FANET's

Ways to Increase Word-of-Mouth in the Retail Industry

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Abstract:--

The retailing in Malaysia has undergone a momentous transformation and drastic change to meet the rapid change in customer behaviour and customer expectation. The role of retailing is to connect manufacturing and individual consumers for personal consumption. Recently, retailers are facing enormous competition both local or foreign markets and negative impacts of negative word-of-mouth (WOM). Therefore, this study investigates the positive and significant relationship between innovative marketing and technological, customer value, store brand equity, satisfaction and WOM in retailing of Malaysia. Quantitative research design was used for data collection. Questionnaire was created using Google form and distributed online to 191 respondents. Purposive sampling technique was used to select retail customers who had purchased grocery at a retail store. The findings found that there are positive and significant relationships between innovative marketing and technological, customer value, store brand equity, satisfaction and WOM in retail industry. Ultimately, the findings of this study are expected to help and inspire retailers to develop more efficient and effective strategies for enhanced competitive advantage.

Keywords:

Innovation, Technology, Customer Value, Brand Equity, Satisfaction, Word-of-mouth, Retailing

Goal Clarity and Financial Literacy towards Retirement Confidence among Working Adults in Southern Region, Malaysia

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Abstract:--

This study investigates goal clarity and financial literacy towards retirement confidence among working adults in Southern Region, Malaysia. The objectives are to determine the relationships between the independent psychological variables, goal clarity and financial literacy towards retirement confidence, and to determine the strong predictor between the two independent variables. Using a survey as research instrument, 173 working adults in the region participated in the study. Correlation and Multiple Linear Regression were used as statistical analysis methods. The findings indicate that goal clarity has a positive, linear and strong relationship towards retirement confidence ($r=0.731$, $p < 0.05$), while the relationship of financial literacy and retirement confidence is also positive and linear, it is moderate ($r=0.614$, $p < 0.05$). Goal clarity has also been identified to be the better predictor towards retirement confidence, contributing 57.1% in the causal relationship to retirement confidence.

Marketing Innovation and SMEs' Business Performance in Malaysia

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Umar Haiyat Abdul Kohar, Universiti Teknologi Malaysia (UTM)
Siti Aisyah Panatik, Universiti Teknologi Malaysia (UTM)
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Abstract:--

In today's global and high technological environment, innovation is a crucial factor that helps Small and Medium Enterprises (SMEs) to sustain in their business. Innovation will cause SMEs to gain creativity, success, profitability, and customer satisfaction, and all those elements will contribute to enhancing SMEs' business performance. There are few types of innovation that SMEs can implement, one of them is marketing innovation. Marketing innovation is a new or improve marketing method that can be used by firm involving significant changes in product design or packaging, product placement, product promotion and pricing. This research aims to identify the relationship between marketing innovation and SMEs' business performance in the retail industry in Malaysia. A quantitative survey has been distributed to retail SMEs, and 217 completed responses were obtained for the analysis. The researchers conducted multiple regression analyses to test the relationship of marketing innovation towards SMEs' business performance. Based on the finding, there is a significant relationship between marketing innovation and SMEs' business performance. Marketing innovation is substantial for SMEs' business performance; therefore, SMEs need to invest in marketing innovation to ensure their business performance. The result also suggests the need for future research to investigate the relationship in different areas.

Oil and GAS Megaproject in Malaysia: The Impact of Cultural Intelligence

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Soon Min, Ng, School of Energy, Geoscience, Infrastructure and Society (EGIS), Heriot Watt University Malaysia, Putrajaya, Malaysia.

Abstract:--

Global project leaders need to be developed and must be able to explicitly accommodate the cross-border environments at different geographical locations. Factually, cultural barriers in the context of language, religion, values and so on, causes cultural split and schizophrenic divide among individuals. This natural phenomenon becomes even greater when two or more cultures have a slight acquaintance with each other. This can be magnified within almost every international mega-project and had proven to significantly expose respective organization to business and reputation risk. So far, studies on cultural intelligence (CQ) were limited to non-oil and gas organizations, non-Malaysians and covers studies from different clusters of personnel in organizations. Explicit study on CQ with respect to deep-water oil and gas project performances in Malaysia is wanting and will be inculcated in this paper. The methodology of this qualitative exploratory research has facilitated an inductive approach, and led to a unique, contextual attestation of Cultural intelligence as key enablers in cross border project leadership to enhance the performance of future Oil and Gas megaprojects. An interim framework , modelled after a typical drilling rig was established as one of the strategic tool-kit to tackle the soft-skills challenges frequently appear in mega projects and is envisaged to continuously improve the future of cross border project manning strategy in international Oil and Gas organization, hence potentially mitigating the destruction of shareholders wealth and enterprise reputation.

Keyword:

Cultural intelligence, Cross-border leadership, Exploration and Production, Oil and Gas industry, Mega projects, Project performance.

The Mediating Effect of Sustaining Lean Improvement on the Relationship between Sustainable Manufacturing Practices and Sustaining Performance

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Muhamad Zameri Mat Saman, School of Mechanical Engineering, Universiti Teknologi Malaysia, Johor, Malaysia

Abstract:--

Sustainable Development Goals are setting a new global target on sustainability whereby oil and gas (O&G) corporate are expected to play an important role through sustainable manufacturing practices (SMP) and sustaining lean improvement (SLI). Accordingly, both parties are crucial to achieve sustainable performance (SP) with triple-bottom line concept of these organisations. However, research on the relationship of SMP, SLI and SP is relatively rare particularly in Malaysian O&G sector. Therefore, this study is aimed to provide empirical evidence showing that SMP and SLI significantly improve SP in order to encourage organisations to implement these practices. The study population will be Malaysian O&G organizations listed in Malaysia Oil and Gas Services and Equipment (OGSE) Catalogue 2018 where data were collected using a questionnaire-based survey through Linkedin and Google form. This research involved 53 O&G organisations in Malaysia. This paper provides evidence of the positive and significant relationship between SMP, SLI and SP as well as the partial mediating effect of SLI implementation on the relationship between SMP and SP.

Index Terms

Malaysia, Oil and Gas Sector, Sustainable Manufacturing Practices, Sustaining Lean Improvement, Sustainable Performance.

Personal Shopper: Scalper or Helper? A case study of online shopping services in Malaysia

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Abstract:--

Personal shopper is a type of purchase service offered by a group of individuals to another person by charging a certain amount of money. In Malaysia, the use of this service has increased over the years. However, there are some consumers who find this service sometimes offers unrealistic service charge rates. Therefore, the main objective of this study is to identify the factors that influence consumers' use of personal shopper services, and how much is the service fee perceived to be relevant by consumers. This study used a survey method in which an online questionnaire was distributed to four personal shopper groups through the social media application Telegram. The results of this study will be used to improve the quality of service delivery online.

Keywords:

Personal Shopper, Online shopping services, online business

Learning the Malay Traditional Musical Instruments by Using Augmented Reality Application

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Nur Syahela Hussein, Department of Creative Multimedia, Malaysian Institute of Information Technology (MIIT), University Kuala Lumpur, Kuala Lumpur, Malaysia

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Abstract:--

This paper proposed the implementation of Augmented Reality (AR) technology to promote the learning experience of Malay traditional musical instruments. The application uses a book as a marker to help the user visualizes the traditional musical instruments, learn the history behind it and how the instruments sound. As a starting point, library research has been conducted in order to understand the current state of the art. ADDIE model has been used and the design and development phases have also been discussed. This AR application is expected to be a tool for promoting the Malay traditional musical instruments for the new young generation.

Keywords:

Augmented Reality, Malay Musical Instruments, Digital Heritage, Music, Museum

Novel Optical Fiber Daylighting System with an IR Filter

Dr. Bouchaib Zazoum, Assistant Professor, Mechanical Engineering Department, Prince Mohamed Bin Fahd University

Abstract:--

Solar daylighting through low cost polymer optical fiber cables in home and working place is a potential option to save energy associated with artificial lighting as well as enhance the visual comfort and human health by using natural solar lighting. In the present study low cost solar light system consists of polymer optical fibers, parabolic mirrored surface and sunlight collector with IR filtration mechanism, was designed to bring sunlight into buildings. The effect of the IR filter on the temperature of the polymer optical fiber and the output illuminance, has been investigated via IR thermometer and lux light meter instrument. The results clearly indicate that the IR filtration system would protect the polymer optical fiber from the overheat damages without affecting the output illuminance, and extend the life time of the polymer optical fiber. Furthermore, this daylighting system can reduce energy cost and contribute to solve climate change issues.

Identification of Major Factors Influencing Students' Selection of HEIs in UAE to Enhance the Recruitment Strategies

Mahmood Mir, College of Business Administration, Ajman University, U.A.E.
Maria Jade Catalan-Opulencia, College of Business Administration, Ajman University, U.A.E.

Abstract:--

With an increasing number of higher education institutions and a limited number of high school graduates, most institutions have to compete for students in the recruitment market. In the case of UAE, where around 85% residents are expatriates, the enrollment competition becomes even more severe as some of the prospective undergraduate students have the option of studying abroad, either in their home countries or in countries with reduced tuition fees. In order to remain competitive, academic institutions must identify the main factors that impact enrollment of undergraduate students. This paper attempts to identify factors that influence students' choice of university in the UAE. In this study, 251 male and 259 female students of grade 11 and 12 from five high schools in UAE voluntarily participated in completing a survey questionnaire based on a 5-point Likert scale including 18 university choice factors which they had to rank accordingly. Simple descriptive statistics was used to identify the factors students considered most important in their selection of academic institution. The findings have implications on devising appropriate recruitment strategies for optimizing the enrollment of prospective students and strengthening the position of a university in a highly competitive UAE market.

Self-Driving Cars and Generation Y: Empirical Evidence from Malaysia

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Mahmood Mir, College of Business Administration, Ajman University, U.A.E

Abstract:--

This paper describes the impact of autonomous or self-driving vehicles on travel demands and transportation planning. It forecasts their likely adoption by Generation Y in Malaysia based on their experience with previous vehicle technologies and explores how these vehicles will affect their behavior with respect to mobility, perceived safety, and social influence. The autonomous vehicles could help create smoother traffic flow and result in lesser demand of new roads. This is because intelligent, self-driving, vehicles may drive more safely and efficiently than human drivers. However, the deployment and penetration of advanced vehicular technologies in the marketplace, and appropriate planning for possible market adoption scenarios, calls for the collection and analysis of consumer preference data related to emerging technologies. Public attitudes toward self-driving cars are becoming increasingly important as the public shapes the demand and market for cars, the policies that govern them, and future investments in infrastructure. It is determined that around 61% of respondents of this study are willing to adopt a self-driving car instead of a conventional vehicle. It is also found that social influence, perceived safety, and attitude towards technology have an influence on perceived travel behavior of Gen Y's population in Malaysia with respect to self-driving and autonomous vehicles.

A Perspective Review on Experimental Investigation of Friction Stir Welding Process

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Abstract:--

Joining of dissimilar materials is extremely strenuous when compared with joining of similar materials due to its distinct chemical, mechanical, and physical properties. However, friction stir welding (FSW) process serves as an excellent technique for joining of dissimilar materials. The progress of FSW process since its invention for joining similar and dissimilar aluminum and magnesium alloys is reviewed succinctly in the present work. In the engineering applications, aluminum and magnesium alloys are the best choice where light weight is required. It has been observed that most of the researchers employed aluminum alloys in the study while considering rotational speed and transverse speed. The effectiveness of FSW process for joining these materials and the effect of various welding parameters on joint formation has also been reviewed. The literature findings revealed that the material mixing as the key mechanism for joint formation.

Keywords:

Aluminum alloy, Friction stir welding, Magnesium alloy, Microstructures, Mechanical properties

Conduction Based Heat Transfer Analysis of Dissimilar Thickness Plate Gas Metal ARC Welds

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Abstract:--

The present work focused on development of a FE based heat transfer model during dissimilar thick plates joining using gas metal arc welding process. In the course of development of numerical model, a Gaussian distributed double ellipsoidal heat source model incorporated. Also, the temperature dependent materials properties and latent heat of fusion considered in the present work. Moreover, a non-uniform meshing is created during simulation, in order to reduce the computational cost. Using the present developed model, the 3D temperature distribution, weld bead dimensions and thermal cycles estimated. The presented results shown that the developed model is effective for estimating the thermal behaviour of gas metal arc dissimilar plate thickness welds.

Index Terms

GMAW, FEM, Dissimilar thickness, SS 304.

Preparation and Characterization of Shoe Polish from Cactus (*Opuntia Ficus Indica*) Powder and Charcoal Powder

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Tassew Alemayehu, Department of Chemistry, Adigrat University, Adigrat, Ethiopia
Dinku Senbeta, Department of Biology, Adigrat University, Adigrat, Ethiopia

Abstract:--

Shoe polish is a type of waxy paste that used in gloss, rub resistance, resistance to fading and dust by providing a thin film on the surfactants of the shoe. In this research work, new shoe polish was prepared from 5-gram cactus powder and 5-gram charcoal powder in 75:25 mL wax to olive oil ratio in the presence of denatured alcohol and benzene at an optimized procedure. Furthermore, this prepared shoe polish was subjected to different quality analysis parameters such as viscosity, density, melting point, reflexive index, pH value, ash content, conductivity and moisture content in the comparison of with purchased shoe polish (Kiwi). As the results of these tested parameters indicated, the prepared shoe polish has shown a comparable result with purchased shoe polish (Kiwi). The functional group of the prepared shoe polish was also identified using FTIR analysis and the FTIR peaks confirmed that the presence of long-chain ester groups in prepared shoe polish which is responsible for quick-dry and smells. Besides, the practical use of the prepared shoe polish and purchased shoe polish were examined by polishing some shoes with these shoe polishes. As the observed results indicated that the prepared shoe polish exhibited a very good gloss, dust adsorption resistance, fading resistance and rub resistance. Thus, the prepared shoe polish is fulfilled the quality parameters and replaceable the commercially available shoe polish on the market.

Keywords:

Bee Wax; Cactus; Kiwi; Olive Oil; Shoe

Sustainable Competitive Advantage: Evidence from the U.S. Automotive Industry

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Abstract:--

This study sheds light on the sustainable competitive advantage of automotive firms in the U.S. It investigates the presence of sustainability for these firms by evaluating economic, social and environmental factors. In this study, we used data from 12 U.S.-based automotive firms. To the best of our knowledge, it is the first time that a relative multi-dimensional approach is used to measure the sustainability of automotive firms. A novel modified generalized directional distance function data envelopment analysis (GDDF DEA) program was used to measure efficiency and assess sustainability. Sustainable are the firms that achieve efficiency, which draws both on economic (i.e., total assets, inabilities, profits) and environmental variables (i.e., CO2 emissions), and are qualified in the social dimension (i.e., customers' satisfaction) of sustainability. The results illustrate that five out of twelve automotive firms are deemed sustainable. Also, the environmental dimension of automotive firms' operations is their major weakness towards the achievement of sustainability. Among the sample firms, Ford and General Motors are in need of the most significant modifications in their operations to become sustainable as their environmental performance is considerably weak.

Keywords:

Sustainability; Efficiency; Data envelopment analysis; Carbon dioxide; Customer satisfaction

Research O'clock: Experiences of Science, Technology, Engineering and Mathematics Students of Mangaldan National High School SY 2018-2019 in Research

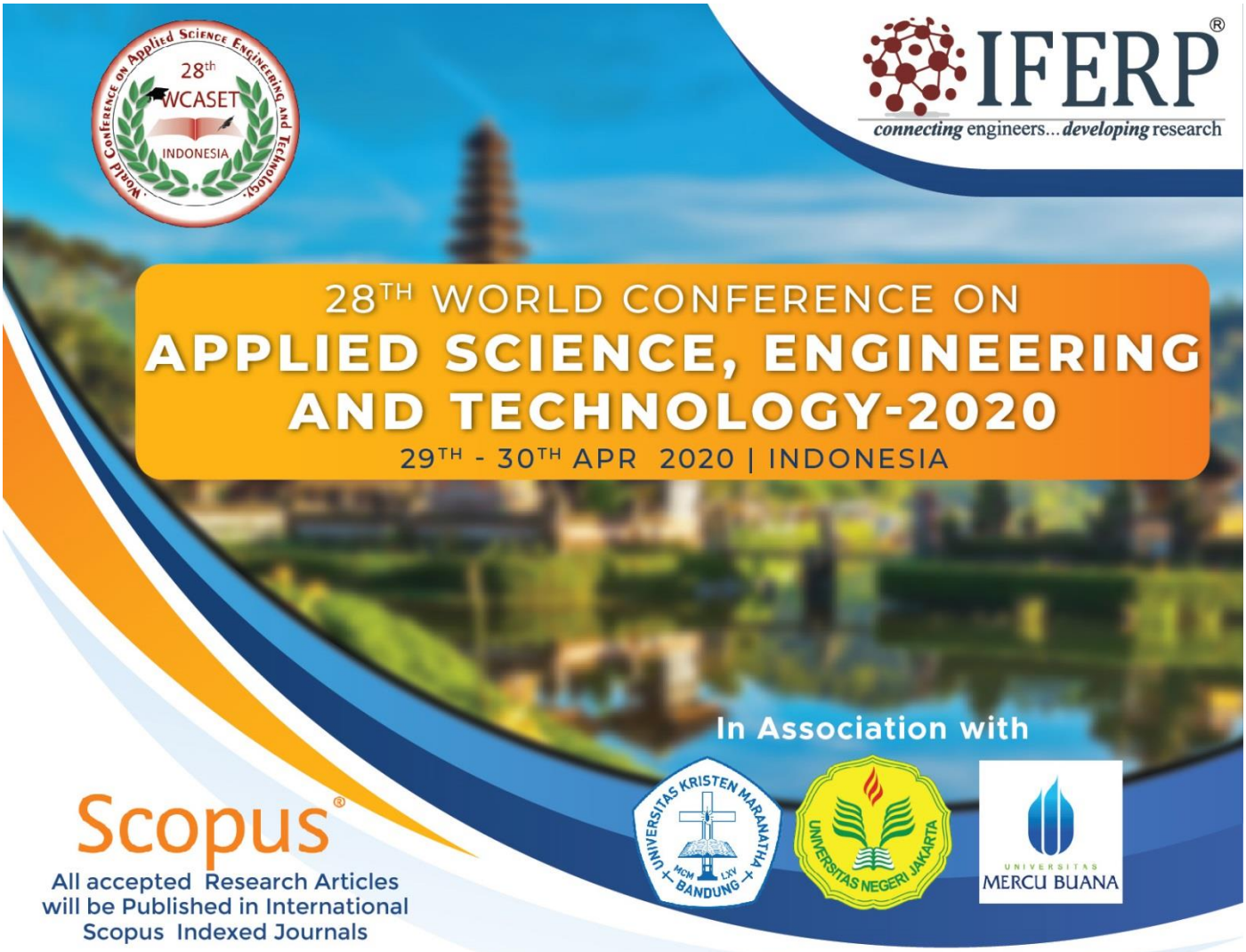
Analyn I. Diola, Teacher 2-STEM, Mangaldan National High School, Schools Division of Pangasinan II

Abstract:--

Research is one on the feared subjects of both students and teachers. The study is conducted to narrate the experiences and journey of the G12 STEM Students. There were collaborations among teachers in Practical Research 2 and Inquiries, Investigation, & Immersion to maximize the time and other resources. Worksheets are crafted by the Teachers and utilized by the STEM students. Evaluation of the worksheet used the following parameters: clarity, content, teacher-factor and student-factor. As well as the advantages, disadvantages, difficulties and changes to be made; and the overall reaction on the Worksheets. Also, reflection journals were written by students on their experiences with the Teachers. As a result, the Worksheets are rated as excellent in terms of clarity, content, teacher-related aspect and student-related aspect. Worksheets made the writing of each research chapter easier. But because Worksheets are provided, being absent in class turned okey for students. Difficulties in answering the Worksheets were due to language and terminologies used. Further, it was affirmed that sincere and compassionate Teachers are needed to cultivate and enrich the inquisitive and intelligent minds of the STEM Students in studying and applying research in daily life.

Keywords:

Practical Research; Evaluation of Research Worksheets; Inquiries, Investigation, & Immersion



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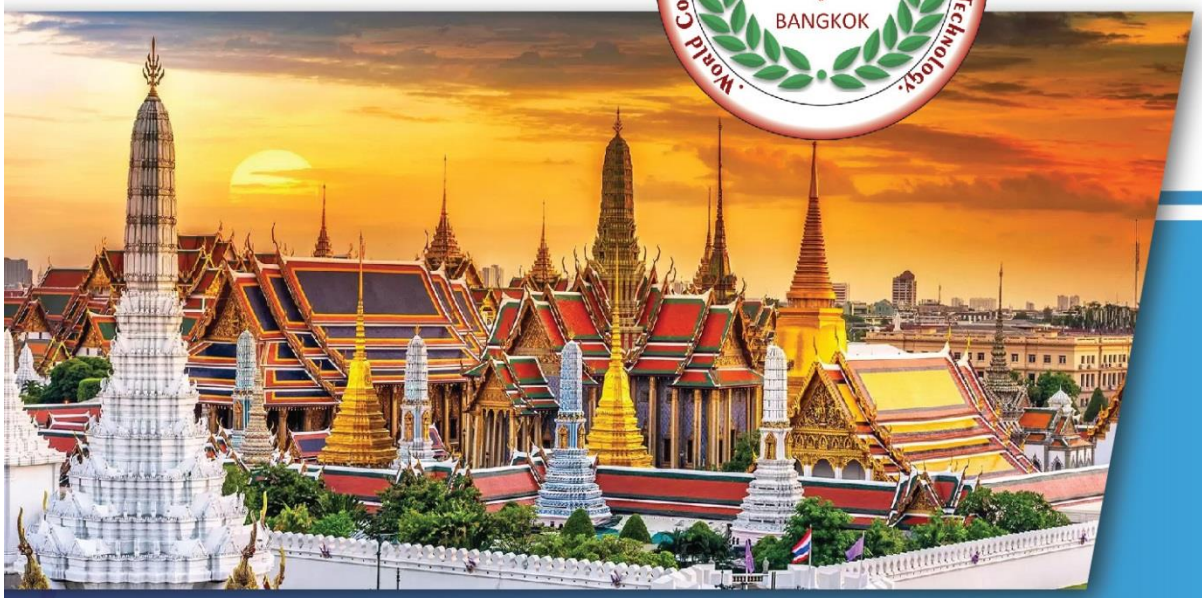

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