



23<sup>rd</sup> World Conference on Applied Science, Engineering  
and Technology  
(WCASET – 19)



Melbourne, Australia

24<sup>th</sup> - 25<sup>th</sup> October' 19

Organized by

Institute For Engineering Research and Publication

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## Preface

We cordially invite you to attend the **23<sup>rd</sup> World Conference on Applied Science, Engineering and Technology (23<sup>rd</sup> WCASET-19)** which will be held at **NOVOTEL Melbourne Centra, Melbourne, Australia** on **October 24<sup>th</sup> - 25<sup>th</sup>, 2019**. 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 August 2019, the Organizing Committees have received more than 160 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 51 papers were included to the proceedings of **23<sup>rd</sup> WCASET - 2019**.

We would like to extend our appreciation to all participants in the conference for their great contribution to the success of **23<sup>rd</sup> WCASET-19**. 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 **23<sup>rd</sup> World Conference on Applied Science, Engineering and Technology** this year in month of October. The main objective of 23<sup>rd</sup> 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. Siddh Kumar Chhajjer**  
**Director**  
**Institute for Engineering Research and Publication (IFERP)**



**KEYNOTE SPEAKER**





# 23<sup>rd</sup> World Conference on Applied Science Engineering and Technology – 2019

## Message from Keynote



**Prof. (Dr.) Jatinder Singh Bal**

**Vice-Chancellor**

**Sant Baba Bhag Singh University**

**Jalandhar, Punjab, India**

As a Vice Chancellor of Sant Baba Bhag Singh University (SBBSU), Punjab, India, It is great pleasure to announce that Institute For Engineering Research and Publication (IFERP) is going to organize 23<sup>rd</sup> World Conference on Applied Science, Engineering and Technology at Melbourne, Australia on 24<sup>th</sup> - 25<sup>th</sup> October -2019.

I warmly welcome all the delegates in this scientific meeting staged to address the issues in a wide spectrum of interrelated disciplines. I expect the participation of intellectuals from the various specialities in engineering and management. The present-day life is faced with plethora of problems related to management. Engineering and technologies issues requiring immediate addressal and redressal in a sustainable waythrough interdisciplinary approaches and collaborations worldwide. The conference will surely act as a great stimulus and active platform for students, researchers, academicians, industrial professionals and business delegates belonging to different disciplines from all over the world to present their research works, share ideas and strategies with each other in various areas of management, Engineering and Technology. The cerebral congregation in question can be an auspicious opportunity to interact with eminent experts of diverse disciplines, to establish research collaborations and to find suitable sites for scientific exchange of ideas and techniques. I believe this conference will help researchers in enhancing their capacities through genuine discussions and healthy interactions.

I express my sincere gratitude to all the delegates and our organising partners for making this conference an international knowledge sharing and dissemination event.

May 23<sup>rd</sup> World Conference on Applied Science, Engineering and Technology at Melbourne, Australia 2019 be blessed with scintillating success!

**Prof. (Dr.) Jatinder Singh Bal**



# Organizing Committee

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**ABSTRACTS**

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## A New Approach for an Intelligent Fish Feeder

**Mohammed M. Alammr**, Department of Electrical Engineering and Electronics, University of Liverpool, Liverpool, UK

**Ali Al-Ataby**, Department of Electrical Engineering and Electronics, University of Liverpool, Liverpool, UK

**Waleed Al-Nuaimy**, Department of Electrical Engineering and Electronics, University of Liverpool, Liverpool, UK

### ***Abstract:--***

Intelligent Fish Feeding System has undergone significant transformation since its conception, hence, the importance of improving aquaculture as a result of the numerous benefits that accrue from its use. Fish breeding is a promising branch of farming, so creation of tools for automation of this area is quite relevant. Feeding on fish farms is the main component of the successful functioning of such business, however, this process requires an in-depth preparation as each species of fish has a different food culture, as well as various behaviours during nutrition. Moreover, when feeding fishes, farmers must take into account the number, age, size of the fishes plus other factors. This paper describes the features and design of an Intelligent Fish Feeding System. It begins with an overview of the technological changes that contributed to the development of the automated fish feeders, including the various design configuration improvements made on previous designs to upgrade the functionality. Moreover, the application of the automated feeding system are explained, which can record fishes feeding habits and determine the degree of their hunger, and, finally, to feed them. The Intelligent Fish Feeding System estimates the wasted food amount in each feeding cycle which will be used to avoid over- or under-feeding. The paper further describes the proposed automated fish feeder design, also encompassing the details of hardware components, software algorithms as well as fish database where various functionalities and features of the fish feeder are elaborated. Finally, Intelligent Fish Feeding System can solve the issue of uniform the distribution of food for all fishes while maintaining the appropriate environment which eventually improves fish welfare.

### ***Keywords:--***

Fish Feeding, Automated fish feeders, Smart Fish Feeding System, Methods of Fish Feeding.

# Quantifying Regenerative Braking Energy for the Electric Traction System

**Bong Huoy Lih**, Lecturer, Tunku Abdul Rahman University College

**Kein Huat Chua**, Universiti Tunku Abdul Rahman, Malaysia

**Yun Seng Lim**, Universiti Tunku Abdul Rahman, Malaysia

## *Abstract:--*

In a traction system, regenerative braking energy is produced during deceleration of an electrical train. The regenerative braking energy harvested can then be used in energy saving schemes such as charging of energy storage or directly used by another accelerating train at the same station. Quantifying the regenerative braking energy provides crucial information to carry out the implementation of these energy saving applications. In this paper, the design and working of regenerative braking system are investigated to evaluate the availability of braking energy recovery. An effective regenerative braking energy model for electric traction system is developed using Matlab Simulink. A model has been developed to estimate the energy harvested from the regenerative braking. Various aspects such as the mechanical efficiency of the traction motor, auxiliary load and resistance force are considered. The amount of energy recovery for regenerative braking varies depending on the speed behavior, drive train efficiency, drive cycle, and weight of the rolling stock. Numerous parameters impacting the effectiveness of energy harvested from regenerative braking are considered in the simulation.

# Development of Energy Management System for Hybrid Energy Storage in Vehicle

**Yeoh Sing Hsia**, Faculty of Engineering and Technology, Tunku Abdul Rahman University College, Kuala Lumpur, Malaysia

**Adrian Chan Mun Hong**, Faculty of Engineering and Technology, Tunku Abdul Rahman University College, Kuala Lumpur, Malaysia

***Abstract:--***

Capacitor is widely used in many electronic and electrical appliances. However the storage capacity is comparatively low. Supercapacitor is then invented to hold charge at much higher capacity and faster charging and discharge rate. It could be implemented in a vehicle as an additional energy storage, instead of only relying on the Lead-Acid battery. It aims to reduce the energy usage of the Lead-Acid battery and thus prolong the battery lifetime.

In this project, energy storage system (ESS) using supercapacitor is investigated by modelling through MATLAB/Simulink software. The energy management system distributes energy based on the threshold of the State of Charge (SOC) of the battery and supercapacitor. Photovoltaic energy harvester and piezoelectric harvester are the charging medium for supercapacitor. Battery with boost converter and supercapacitor with buck boost converter are modelled in MATLAB Simulink. Effective management of power flow via optimal use of supercapacitor bank is the key to achieve the aim of maximizing the battery lifetime. Results shown that the threshold value of SOC should not be less than 80%.

# A New Approach for Creating Random Signal in OFDM Using Chaos Theory

**Rasika Chafle**, Suryodaya College of Engineering & Technology RTMNU (M.S)

**Dr. Sanjay Asutkar**, Associate Professor, M.I.E.T Gondia, RTMNU (M.S)

## ***Abstract:--***

A New Logistic Map interleaving is the most well-known technique for persistent stage balance based symmetrical recurrence division multiplexing (CPM-OFDM) framework over a blurring channel. The choice of a "great" interleaver communicating all together that the interleavers are pitifully related. Interleaver doesn't include huge memory to hold it and a gigantic data transfer capacity to convey amidst the transmitter furthermore, the beneficiary, and should be easy to create. A productive disorderly maps randomization (CMR) creates mixed uncorrelated randomized information can extraordinarily improved the presentation of CPM-OFDM framework and improved image mistake rate (SER) could be achieved. In this investigation, exhort another one-dimensional disorderly map, the "New Logistic Map (NLM)". Encryption is completed with calculated guide even as a disordered strategic guide interleaving procedure is utilized to help the resistance to clamor and blurring in correspondence channel. Besides, an assessment between NLM interleaving and arbitrary interleaving is performed as far as bit blunder rate(BER).Simulation results demonstrates that the information transmission over remote channel utilizing propose NLM interleaving is progressively invulnerable to blurring and commotion and show signs of improvement the exhibition of CPM-OFDM framework



# Accounting for Job Satisfaction and Job Performance via Herzberg's Two-Factor Theory: The Case of Overseas Filipino Workers (OFWs) in Vietnam

**Dr. Perfecto G. Aquino Jr.**, Researcher & Lecturer, Duy Tan University, Danang City, VietNam

**Dr. Doan Hong Le**, Associate Professor, Duy Tan University, Danang City, Vietnam

**Dr. Revenio Jalagat Jr.**, Assistant Professor, Al Zahra College for Women, Oman

**Dr. Vu Duy Nguyen**, Lecturer, Academy of Finance, Hanoi, Vietnam

## ***Abstract:--***

The study was carried out to determine the impact of hygiene factors and motivational factors on job satisfaction and job performance among Filipino workers living in Ho Chi Minh City, Vietnam. Regardless of the nature of their work and the company they work for, sampling for the participants of the study was undertaken through google docs and LinkedIn. Of 350 targeted participants, a total of 180 responded, for a retrieval ratio of 51%. This was largely a descriptive type of study, utilizing a survey questionnaire to gather empirical data. The data was analyzed using SPSS, version 21. Four constructs were extracted, namely: Hygiene Factors, Motivational Factors, Job Satisfaction, and Job Performance. Key findings based on correlation and regression analysis revealed that there is a significant relationship between hygiene factors and motivational factors in job context; a significant influence of hygiene and motivational factors on job satisfaction; a significant relationship of hygiene and motivational factors on job performance; and a significant relationship between job satisfaction and job performance.

Specific findings from this Vietnamese study show that for hygiene factors, the key determinants are variables such as salaries, benefits, working conditions, relationships with co-workers, organizational policies, and personal growth. With regard to job performance, the critical factors emerged as salaries and benefits, working conditions, job security, organizational policies, achievement as well as the work itself. Among the key implications of the study is the recommendation that companies employing Filipino workers in Vietnam should take into serious account the four constructs alluded to above, as they are significantly correlated with each other. Taken together, they have an important bearing on both job satisfaction and job performance, which in turn are important considerations in achieving respective corporate missions and strategic goals for the companies involved.

# Improvising Green Computing using Multi-Criterion Decision-Making

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## ***Abstract:--***

In the last decade, dependency of human beings on computers has been rising at an unpredictable scale. The data related to human activities from small activities to complex tasks are being recorded and used to train machines also. This is an era of artificial intelligence. The computing resources are gaining more and more attention and so is computational emission. There is a dire need for Green Computing in the coming days. This paper identifies some of the most critical parameters that affect the decisions of the organizations for adopting the green computing. The paper uses a survey technique for the evaluation of different criteria. Major green computing decision parameters have been indentified from the existing literature and a survey of the industry professionals on these parameters has been performed. The matrix obtained after survey is analyzed using the Hasse Diagram partial order ranking technique to obtain a partial order set and thereafter the partial order is converted into a complete order. This technique helps to identify the ranking of various parameters that affect Green Computing decisions in the current state of practice. Although there are multiple criteria for making the green computing decision, this novel ranking methodology has been used as it uses discrete mathematics for weighting the different attributes.

## Qi Men Dun Jia Project Management: The Timeless Recipe behind Successful Projects

**Jennel R. Cheng**, MSIT, ITIL OSA, Jose Rizal University – Philippines College of Computer Studies and Engineering

### ***Abstract:--***

Everything that we see now especially with Technology started from the Higher Universal Intelligence inspired to mankind. Then man will act based on this inspiration and turn them into something realistic this will now give birth to what we call a Project. Big or Small, short term or long term, local or international they are called projects. According to RITA, there are about 20% success rate only on every projects that has started. 80% of the projects that has started failed and has not completed along the way.

From the 20%, about 70% alone meets the criteria sets by the project manager in order for the project to complete. With this, it gives the project manager a lot of challenges and even frustrations if the project plan that has been developed will end up being scrapped or as a failure.

Qi Men Project Management is the key to strategically plan your projects and the best thing about this method is that it is applicable not only to projects but in the daily life and you read it right daily life means every aspect of someone's life.

What if there is a method or a solution in avoiding this kind of outcome in a project, that as a project managers every projects that you will handle will end up Successful in every aspect? Something that your future self will thank you for. It is therefore a premise on this research that the researcher will prove that Qi Men Dun Jia Project Management is the Timeless Recipe used behind every successful projects.

# Modification of a Naturally Existing Calcium Carbonate for Pharmaceutical Applications

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## ***Abstract:--***

The need for economical sources of calcium carbonate in pharmaceutical applications has urged thorough investigation of the mineral from a natural origin. This is due to the fact that synthetically produced calcium carbonate represents high cost burden, low compressibility, and high tablet disintegration time. Accordingly, the applicability of natural calcium carbonate in tableting has been the subject of interest of the current work due to the high cost and long disintegration time of synthetic products. In order to achieve that, the compression behavior of the powder when granulated with different binders was tested. Hydroxy propyl cellulose (HPC) and Hydroxy propyl methyl cellulose (HPMC) at different concentrations were chosen as the granulating water soluble nonionic agents. An instrumental tablet press was used to differentiate between CaCO<sub>3</sub> granulated with different binders using the force-displacement curves principle. Findings on optimum preparations were analyzed using Kawakita model of compression analysis and tablet hardness testing. Results showed that each binder behaved differently in powder and tablet properties however the compression behavior was similar. Optimum tablet processing was found to be strongly dependent on the compression pressure and concentration of the binder used. The general remarks undertaken in the current investigation will be considered in the context of our interest to replace high cost synthetic calcium carbonate for pharmaceutical use.

## The Status of Germ Line Gene Therapy: An Analysis from an Islamic Ethical Point of View

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### ***Abstract:--***

Rapid development in the area of medical technological advancement has become increasingly important. As other medical advancement, human gene therapy trial and application has benefited mankind by successfully addressing a range of human genetics disease at the early stage. This therapy has offered a series of potential and successful treatment which gives new hopes to the patients. However, the emergence of new technologies and techniques raise various issues and discussions among physicians, scientist and Islamic scholars, especially related to bioethics issue. This technique and application has caused contentious arguments based on ethical and religious position. Apart from elucidations provided using conventional bioethics framework, solutions can also be derived via a comprehensive framework of medical ethics based on the Higher Objectives of the Divine Law (Maqasid al-Shariah) and Qawaid Fiqhiyyah (Islamic Legal msaxim). In view of the above, this paper attempts to analyze the Islamic conceptual framework with special focus on Germline Gene Therapy. It would firstly highlight on the scientific procedure and potential application of Germline Gene Therapy. The Islamic perspectives and principles originate from the Qur'anic injunctions and Sunnah (tradition of the Prophet Muhammad pbuh) shall then systematically assessed. Its position is then analyzed within the application of the comprehensive model of the Maqasid al- Syariyyah and the branches of Qawaid Fiqhiyyah (Islamic Legal Maxims) to draw the parameters of legislation on Germline Gene Therapy. The existing fatwas (Islamic verdict) from other countries shall then highlighted together with the stance of National Fatwa Council of Malaysia on the issue concerned. This study adopts qualitative method using content and doctrinal analysis approach. This study submits that the Islamic fundamental principles of medical ethics are pertinent to respond and maintain the flexibility to this new biomedical advance trial. It further concludes that Germline Gene Therapy is ethically not permissible (prohibited) in Islamic doctrine for few justifiable grounds. As far as Malaysia position is concerned, since Islam is the official religion as enshrined in Article 3 of the Malaysia Federal Constitution, it is essentially important to provide the guidelines by developing a complementary framework of Germline Gene Therapy practices and application derived from Islamic perspective. It is proposed that the Maqasid al-Syariyyah approach be used as a pragmatic checklist that can be resorted in addressing bioethical issue related to human gene therapy. However, the establishment of such framework should in concordance with international ethical on gene therapy as to embrace our holistic Islamic ethics globally.

### ***Key words:***

Germline Gene Therapy, Islamic Principles, Maqasid Syariyyah. Qawaid Fiqhiyyah

## Fiqh Approach in Halal Logistics Operation

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### ***Abstract:--***

The halal industry has received a vast recognition across the globe. It becomes the nature of trade and business in quality assurance and lifestyle. The growing demand for halal logistics services contributes to halal food integrity. In essence, halal logistics cover on halal logistics hub, halal logistics transportation, halal logistics route and halal logistics management. Unlawful (haram) and the risk of contamination including smell, taste and color changes are consequential issues that need fore critical attention. Thus, this study attempts to illuminate the issues by addressing the scope of halal logistics and its integrity. An established talfiq and takhayyur as innovative tools based on Shariah principle will be discussed with a special focus on contamination in halal logistics operation. This study will support with prominent Muslim scholars' views on talfiq and takhayyur and also analyzed the relevancy of applied in the halal logistics globally. This study adopts qualitative study research methodology whereby descriptive and explanatory approaches were used. This study believed that talfiq and takhayyur approach could serve as a benchmark to constitute a sufficient measure to address the issues properly.

### ***Index Terms***

Fiqh approach, halal logistic, innovative, talfiq and takhayyur

# Leading towards Islamic Tourism City by Managing the Sensitivity of Society: A Case Study of Terengganu

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## ***Abstract:--***

Terengganu is one of the states in Malaysia with their own identity where it could attract more travelers choose Terengganu as a favorite selected destination among the local and foreign travelers. The openness of Terengganu in welcoming the travelers has made this state more flourish and famous as an attractive tourism destination in 2018. With this good achievement, the government needs to ensure proper planning and strategies in ensuring the governance of Islamic tourism city are implemented accordingly to ensure the Islamic tourism industry remains competitive. Thus, this study is to examine the leading factors towards the successful of Islamic tourism city in Terengganu by exploring the management in dealing with the sensitivity elements and issues among the society. To answer this objective, this study involves a qualitative research methodology in which in text document is used, and then the data is analyzed by using content analysis and constant comparative techniques. The results have shown that the sensitivity of the local society becomes a significant consideration in the Islamic tourism governance at Terengganu since it influences the Islamic tourism development process. In ensuring the life of the Muslim society is preserved, and consequently increase the participation of the society in the Islamic tourism activities, it is hoped that the stakeholders are responsible and accountable by following the principles of Islamic Law Shariah in governing Islamic tourism city.

## ***Keywords:***

Islamic city, Islamic tourism, managing sensitivity, Terengganu

## Leadership and Innovation towards Firms' Performance: The Case of Selected Industries in Oman

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**Dr. Perfecto G. Aquino Jr**, Lecturer , Duy Tan University, Danang City, Vietnam

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### ***Abstract:--***

**Purpose** - The purpose of this paper is to examine the relationship of the four main constructs; leadership traits towards innovation, leadership style, innovation culture, and firm performance. In particular, this paper focuses on three sectors comprising of construction, manufacturing and information technology in Oman. Additionally, this paper attempts to examine the role of innovation culture in mediating the relationship between leadership traits, leadership style and firm performance.

**Design/Methodology/approach** – This study utilized the descriptive research design. The conceptual model of this study incorporates two construct of leadership including leadership traits towards innovation and leadership style along with constructs addressing the role of innovation culture as a mediating variable on leadership traits towards innovation, leadership style and firm performance. Quantitative data were collected from a questionnaire survey to 150 design professionals working in constructions, manufacturing and information technology firm. Specifically, component factor analysis (CFA) was conducted to affirm the factors underlying each construct and Cronbach's Alpha for reliability. Moreover; regression and correlation statistics were used to test the significant relationship among the variables employed in this study.

**Findings** – The results confirmed that there is a positive correlation between leadership traits towards innovation and leadership style which means that leadership traits impact leadership style. Additionally, the study generated positive relationship between leadership traits towards innovation and innovation culture, and positive relationship between leadership style and innovation culture. Furthermore, it was found that leadership traits towards innovation and leadership style directly influence firm performance. Finally, innovation culture mediates the relationship between leadership towards innovation and firm performance as well as leadership style and firm performance.

**Originality/value** – This study presents an important developed model that tested the effect of leadership and innovation on firm performance which helps firms to increase shared knowledge and enhance business performance.

### ***Keywords:***

Leadership Traits, Leadership Style, Innovation Culture, Firm Performance, Oman



# Self-Regulation Empowerment Program: A Mixed Method Study

**Dr. Amalia E. Roldan**, Assistant Professor , Occidental Mindoro State College

***Abstract:--***

The study determines the effectiveness of the Self-Regulation Empowerment Program (SREP) conducted among college freshmen to enhance their academic self-regulation and academic performance in Mathematics subject. Self-Regulation Empowerment Program (SREP) aims to enable and empower students to become more self-sufficient and independent learners (Cleary & Zimmerman, 2004). SREP is grounded on problem-solving approach and the cyclical model of self-regulation (Zimmerman, 2000). A mixed method study using sequential exploratory research design was used. The qualitative part of the study explore on the struggles experiences of the students in taking their mathematics subjects and what study strategies they are currently using. After the introduction of the intervention program, the quantitative analysis determines the effectiveness of the Self-regulation Empowerment Program (SREP) to the self-regulation strategies of the students and their grades particularly in Mathematics. The findings of the study showed that: (1) the participants used the Academic Self-regulation Learning Strategies at high extent after the conduct of Self-regulation Empowerment Program (SREP); (2) the participants showed increased performance in their quizzes and seatwork in Math after the conduct of Self-regulation Empowerment Program (SREP); (3) there is a significant difference in the participants' usage of Academic Self - Regulation Learning Strategies and academic performance in Mathematics before and after the conduct of Self - Regulation Empowerment Program (SREP).

***Index Terms: –***

Self-regulation, empowerment, Academic self-regulation learning strategies

## A System of Everything

**Christopher L A Smith**, Self-taught theoretical physicist

### **Abstract:--**

All manner of energies form is a pyramid particle constituent with a size of approximately  $2.3 \times 10^{-33}$  and a mass of approximately  $4.134 \times 10 \text{ kg}^{13}$

These pyramids have a unique function where they intake force and outlet force at the same time and are magnetic in nature they have both a field release and return of magnetism and the force bends in relation to both positive and negative force.

These pyramid's release field splays a short distance from both the base and top where all the returning force meets the releasing force causing a splay of force different for the base and top. The returning force is a vortex stream and streams along the edges of the pyramid before continuing as released force. These return points can offset based on surrounding force return and do so for electrons.

Electrons are 5 of these pyramids held close on return points with combined vortexes, with 4 tops aiming inward towards a central spinning pyramid with the 4 connected to a dual release of the central's 4 corners this would leave a held set state of south magnetism due to positional outflux with the central acting a continuous magnetic change giving the electron an electromagnetic function.

The quarks are held stable with 3 connected 2 revert to a 3rds dual release/return function they can have 2 states up and down and hold charge also due to a positional outflux of force. The down quark is weaker in force due to the function of the base as its releases for its return point from 4 corners it has greater distance to travel to get there weakening force by degree of distance proportionally.

2 pyramids entangle together are photons streaming along each other's edges continuously oscillating magnetism of north and south fields these and have different rates of movement along the edges and would wave at higher or lower rates based on speed of changing magnetism. As magnetism releases at light speed the photons don't come apart like 2 gluons would naturally as they continue to want the force from each other even when encountering the same polarity as they don't want to go beyond light speed.

These particles do not travel beyond light speed normally as when they pass the speed of light the polarity is behind itself then attracting the end behind with an attractive force backward from direction of travel slowing back to light speed rapidly and staying at light speed as the force no longer draws back on itself.

Gluons are single pyramid magnets and travel about with the strong force due to the delay in magnetism while traveling at light speed all force will not act until passing an object and as they are usually seeking quarks the stronger force they will attract the quarks towards their travel direction. Gluons join quarks momentarily where they either stream along or meet a field flux and are then repelled at light speed or greater and continue force pathing and meetings as they go.

Heat itself is much like a gluon but enters and leaves the atom in 2 way streams heat coming in and heat leaving now this can release more in one direction than the other and create heat transferal heat will stream normally stream down with a north down facing and up with a south up facing and in and out left to right with a north seeking the atom.

This is due to a positional favour of quarks down quarks normally have a south field above and north field below that seeks the greatest south field giving a magnetism of above and below each other on earth, south up north down. Up quarks have an orbital around flux vortexes normally preferring a vertical north orbit and horizontal south attachment orbit these 2 preferred facings, giving heat a rising potential to down quarks and a fluctuation to up quarks with heat flowing along streams of continued force releasing all directions but with more heat releasing up and left to right.

Neutrinos are a big part of the universe and are dark energy they function as 2 pyramids joined top the top held in that state while traveling at light speed this leave a south field that repels other neutrinos in a continuous expanse away from each other. They have a north ring of force releasing from centre and can tangled with each other. They are also able to replace electrons as quantum entangled matter or dark matter. The release ring of force for entangled neutrinos is pulsation of north rings with south spheres so a photons changing magnetism along a continued linked release of north and south pulsations would accelerate beyond light speed and continue to accelerate till meeting its entangled neutrino.

## Examining the Existing Practices of Psycho-Spiritual Therapy as A Way of Treatment

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### ***Abstract:--***

Recent accumulating evidences have shown that religion and spirituality play important role in helping patients or victims cope with stresses in life, including those due to their illness. Previous research also proved that there is important connection of religion and spirituality with health and wellness of an individual life. They are significant in achieving sense of personal control in a situation that evokes feelings of distress and helplessness. However, psycho-spiritual elements of therapy have been neglected by many health practitioners in managing their ill patients. The psycho-spiritual healing method have been studied only to a limited extent. Research on the effectiveness of this psycho-spiritual healing is even more limited. Therefore, this research is carried out first, to study the importance of psycho-spiritual therapy as a way of treatment and secondly, to critically examine the existing practices of this type of therapy. To achieve the objective, this research adopted primarily an exploratory qualitative approach using library research. The finding of this study highlights some significant psycho-spiritual practices in healthcare and rehabilitation process of treatment. This study further submits that a psycho-spiritual approach is crucially essential to lessen spiritual illness of patient.

## Sero-Prevalence of Hepatitis C Virus by Using Different Diagnostic Techniques in Hazara Division of Pakistan

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**Dr Tamer Yilmaz**, Faculty of Health sciences department of Biochemistry Near East University North Cyprus

**Dr Hatica Bebis**, Faculty of Health sciences department of Biochemistry Near East University North Cyprus

**Dr Nighat Sultana**, Faculty of Health Sciences department of Biochemistry Hazara Univresity Mansehra, Pakistan.

### ***Abstract:--***

Current study was focused on RT-PCR based prevalence of HCV among different areas i.e. Battagram, Mansehra, Abbottabad and Haripur and age groups i.e. ( $\leq 25$  yrs), (25-50 yrs) and ( $\geq 50$  yrs) of Hazara division of Pakistan. RT-PCR is considered to be a most reliable diagnostic technique. In this study total 1000 patients (n=1000) who were confirmed HCV positive by rapid Device test and ELISA method, which were further evaluated by RT-PCR. HCV RNA was isolated from patient sample serum which was further quantified and amplified by RT-PCR. The highest infection rate was found in Mansehra (21.2%), Abbottabad (15.5%), Battagram (6.8%) and Haripur (3.8%) respectively. Similarly, the highest infection rate was found in age group 25-50 years (33%) while lowest infected age group was less than 25 years (7.4%). It was thus concluded that it is very crucial to screen HCV patients by using RT-PCR to avoid necessary false positive values.

### ***Key Words:***

Hepatitis C Virus, RT-PCR, ELISA, Rapid device test, Immunity, Infectious diseases, Quantification, Amplification.

# Raising Need of Organizational Behavior Modification in Business Organizations with Reference to Chanakya's Yogic Approach of Business Management

**Prof. Jasmine Pradeep Gajare**, M. J. College, Jalgaon, MH

***Abstract:--***

Raising competition and stress in business organizations is causing workplace disturbances and malpractices, affecting its efficiency and long-term goal achievement. Maintaining healthy workplace environment through behavioral management and modification at workplace is the only ultimate solution to overcome from this common challenge of all business organizations. Number of behavioral management strategies and behavioral modification practices are suggested and adapted by business organizations as corrective measure; however, the yogic approach given by ancient Indian philosopher and economist Acharya Chanakya in his book 'Chanakya Niti' is very much application, relevant and wholesome solution to this predicament.

Present research article is an attempt to present the relevance of adopting equanimity – a yogic approach given by Acharya Chanakya as a corrective mean for this problem. The dominant motive for research is to provide explanation on how the ancient theories of Chanakya and yoga are still apposite and practical at business workplace. Discussion in the article explains the relevancy of some Chanakya Niti shlokas and need of behavioral modification in business organization. Article ends by outlining scope and need for further research.

***Keyword:--***

Behavioral Modification, Bhagavat-Gita, Business Organization, Chanakya, Yoga.

## Revealing teachers' motivational strategies in Libyan English as a Foreign Language Classrooms

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**Ann Dashwood**, University of Southern Queensland

**Jill Lawrence**, University of Southern Queensland

### ***Abstract:--***

In recent years, a positive consensus has emerged about how effective it is for teachers to use motivational strategies with formative learners of English as a foreign language. This study investigates its significance in Libyan primary public schools. The study employed a large scale empirical survey to collect the data. Seventy-six EFL teachers ranked a list of 48 motivational strategies on a Likert scale (1-6) from 'not important' (1) to 'very important' (6). The quantitative results revealed that EFL teachers believed motivational strategies were highly relevant in motivating learners in the early stages of learning English as a foreign language. The four most important motivational clusters encompassed 'proper' teacher behaviour, encouraging learners' self-confidence, recognizing students' efforts and creating a productive and relaxed classroom climate. Less importance was attached to strategies related to increasing learners' goal-orientedness, familiarising learners with second language (L2) values, promoting learners' autonomy, and promoting group cohesiveness and group norms.

### ***Keywords:***

English as a Foreign Language, motivational teaching strategies, EFL teachers in Libyan schools, formative learners in primary schools

# An Evaluation Study of Thermal Stability, Physiological Comfort and Mechanical Properties of Flame resistance Cotton Fabrics Treated with Bovine Milk Casein

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## **Abstract:--**

The objective of the current study to evaluate the effect of different concentrations of aqueous solutions of bovine milk casein on thermo-oxidative properties, flame retardancy, intumescent char formation behavior as well as physiological comfort and mechanical properties of cotton fabrics. From thermo gravimetric analysis, the percentage increase in char residue indicated improvement in thermo-oxidative properties. . The maximum improvement in flame resistance behavior with an increase of total burning time (+34%) was found in case of 30 w/v % casein suspension with a higher production of thermally stable char residues (+46%). Their SEM micrographs also showed the formation of stronger and coherent char with presence of local intumescence. Furthermore, for estimating small differences in burn length and burn area, the flame propagation was studied in detail using the image analysis. The lower concentration of casein below 20 w/v % was found to provide adequate flame retardancy with acceptable physiological comfort and mechanical properties.

## **Key Words:**

Cotton, Green flame retardants, Physiological Comfort, Thermo-oxidative Stability

# Effect of Investment Decision and Decision on Financing Company Value in Food and Beverage Listed In Indonesia Stock Exchange

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***Abstract:--***

This study aims: 1) to identify and analyze the effect of investment decisions on firm value in the food and beverage industry are listed on the Stock Exchange Indonesian, and 2) to determine and analyze the effect of financing decisions on firm value in the food and beverage industry are listed in the Indonesia Stock Exchange. This study uses multiple regression analysis. The data used in this study was obtained from the Indonesian Capital Market Directory (ICMD) and a list of companies going public and listing on the Indonesia Stock Exchange will be obtained from the Indonesia Stock Exchange (IDX) Fact Book.

Results of this study indicate that: 1) partial) decision variables investment is measured by the ratio of investment shows a positive and significant effect on firm value in the Food and Beverage industries listed in the Indonesia Stock Exchange from 2016 to 2018, 2) financing decision variables measured by the ratio of book debt to equity ratio shows a positive and significant effect the value of the company at the Food and Beverage industry is listed on the Indonesia Stock Exchange from 2016 until 2018, and simultaneously 3) variable investment decisions and financing decisions jointly demonstrated a positive and significant effect on firm value in the Food and Beverage industry registered Indonesia Stock Exchange in the period 2016 to 2018.

***Keywords :—***

Investment Decisions, Financing Decisions, Book Debt to Equity Ratio (DBE), Price Book Value (PBV) and Value Company



## Work Motivation – Applying Herzberg’s Two-Factor Theory – A Case Study of Employees in Vietnam

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### ***Abstract:--***

Work motivation study is a content that has drawn attention among researchers for a long time. Although there have been many international studies on motivation, this topic has not been extensively studied in Vietnam. Many researchers have used different kinds of motivation theories, in this study aims to discover motivational factors for workers through Herzberg's two-factor theory. The proposed research model was conducted through the questionnaire survey method with 326 responses of experienced workers. The research results show that the motivation of Vietnamese workers is grouped into two factors in accordance with Herzberg's model; factors "relations with peers", " working conditions and policies" and "job security" are correlated with "motivators" and the factors "responsibility and recognition", "knowledge and training", "work itself "and "Advancement “are correlated with" hygiene factors". In addition, the authors also found different working motivation among employees in different corporations and different positions; while there are no differences in creating motivation between employees with different qualifications, work experience and income.

### ***Index Terms—***

Herzberg's Two-factor theory, hygiene factors, motivation, motivators, VietNam.

# Impact of Supply Chain Risk Management on Organizational Performance

**Jahanzeb Asim**, Program Manager MPM, MSPM & CILT, Faculty Management Sciences, Cluster Head Project Management

***Abstract:--***

The evolution of business and technology has turned the world into a global village. Despite their numerous differences, organizations are now connected more than ever. The underlying reason for this communication network are their supply chains through which business is conducted no matter how much the distances. However, due to this advancement, the pertinent risks of supply chain have also incremented and to ensure seamless flow of operations, it is important to manage and mitigate these risks. Thus, this research is designed to explore such issues that threat the smooth flow of supply chain management and discuss their impact on supply chain agility, robustness and the overall organizational performance and value. The data gathered from respondents was analyzed using SPSS and regression analysis was performed to deduce the outcomes. The findings indicate that supply chain risk management has a profound impact on the agility and robustness of a supply chain, simultaneously influencing the organizational performance and value. The findings and conclusions derived from this study will help management develop strategies which enhance operational flow and make supply chains less prone to errors and risks.

***Keywords:***

Supply chain risk, Organizational performance, supply chain, Risk management

# The Influence of Leadership on Organizational Performance in Nepalese Business Schools

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## **Abstract:--**

**Purpose of the study-** The general objective of the study was to analyze the influence of leadership on organizational performance in Nepalese business schools.

**Design / methodology/ approach-** This study adopted a survey research design. Primary data was collected using structured questionnaire based on the objectives of the study. Instrument validation was made by pilot test. The unit of observation was the 396 principals and academic leaders of Nepalese business schools. Purposive sampling was used to arrive at this sample. Responses analysis, reliability analysis, validity analysis, variable analysis, model appraisal and hypothesis test were conducted and tested with correlation and regression analysis. Hierarchical regression analysis was conducted to identify the impact of mediating variable i.e. Employee engagement.

**Findings of the study-** First, in regard to motivational influence, the regression coefficients of the study showed that it has significant influence on organizational performance in Nepalese business schools. The results indicated that there was a positive relationship between motivational influence and organizational performance in Nepalese business schools. Intellectual stimulation has an effect on organizational performance in Nepalese business schools. Regression results also showed intellectual Stimulation has a significant effect on organizational performance in Nepalese business schools.

R square change indicated that employee engagement mediates the relationship between Leadership and organizational performance in Nepalese business schools.

**Research Limitations:** This study was confined and focused on leadership and organizational performance of Nepalese business schools. Study has done with limited volume of population sample so finding of the study cannot be generalized with initial reference from the study.

**Practical implications:** Specifically, understanding how leadership behaviors influence organizational performance through employee engagement in Nepalese business schools, will not only fill a gap in theory but also the knowledge acquired will be helpful to HRD in developing training programs for the leaders with a focus on leader's behaviors that will lead to subordinates' engagement and organizational performance.

**Rational of the study:** Organizations need to get great skilled and more professional leaders to lead their subordinates in everyday activities in order to achieve the organizational strategic goals. Based on the findings of this research, leadership variables studied in this research have positive impact on success of the Nepalese business schools. The organizations which are interested to stay in the competitive business environment, it is highly recommended to get the right leader with motivational influence, intellectual stimulation and employee engagement as well influential effects should be found in all levels of the organization.

# Tigrigna Question Answering System for Factoid Questions

**Amare Kibrom Haftu**, Lecturer, Wollo University, Kombolcha Institute of Technology, Computer Science Department

## ***Abstract:--***

Accessing relevant information is one of the major problems faced by Tigrigna language users for every domain of knowledge when dealing with huge amount of information especially in the Internet. Evidently, users are interested in obtaining a specific and precise answer to a specific question. However, obtaining a relevant and concise answer is a challenge to particular user question. For such situation, Tigrigna Question Answering system is a good solution. The proposed QA system comprises of question analysis, document analysis and answer extraction modules. The main function of question analysis module is taking a Tigrigna Question as input and then generates a query, expands a query and determines its Question Particle and Question Type. A statistical language model approach is used to model the classification of Tigrigna questions to their category or type. The document analysis module performs the process of pre-processing of parallel corpora, which are documents that contain question sentences in one document and answer sentences in another one, and also ranking and extracting answer contents. Answer extraction also performs the detail analysis on the retrieved answer contents based on the question type, question particle and query using the techniques of language modeling called Answer Model. This statistical language model does the extraction process of exact and precise Tigrigna answer in probabilistic manner from sets candidate answers. Generally, this system developed after reviewed literatures and related work, and selected the appropriate tools and data source such as Moses, GIZA++ and IRSTLM as tools and different Webs and Tigrigna newspapers and magazines as data sources. Our data sets are classified for training and testing activities of the system. Based on this, we collected around 1000 data sets for training and 200 data sets for testing. Performance evaluation conducted manually by comparing the system's answers with the answers exists in testing document, which is prepared for testing purpose. Finally the evaluation results of Tigrigna factoid QAS is expressed in terms of the average performance of a question type classifier which is 87%, and the average Precision, Recall and F – measure of the answer extraction, precision is 88.5%, recall is 85.9% and F – measure is 87.2%.

## ***Keywords:***

Tigrigna question answering, Tigrigna Factoid questions, Language model based question classification, question analysis, Document Analysis, Answer Extraction

# The Intervention of ACBT (Active Cycle of Breathing Technique) Exercise Combined with Aromatherapy Mentha Piperita L. As A Complementary Therapy to Patient with Pulmonary Tb (Tuberculosis) In Agroindustry Sector: A Literature Review

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## ***Abstract:--***

**Background:** Tuberculosis is an infectious disease caused by *Mycobacterium tuberculosis*. Pulmonary tuberculosis becomes the second rank as the main cause of death due to infectious diseases after Human Immunodeficiency Virus (HIV). Globally in 2016, 10,4 million were Tuberculosis. In Indonesia based on a doctor's diagnosis is not shifted, which is equal to 0.4%. **Aim:** The objective of this paper is to conduct a study on document of intervention ACBT conjugated with Mentha piperita as therapy to a patient with pulmonary TB. **Methods:** We performed a systematic review of the literature related to ACBT, aromatherapy of and pulmonary tuberculosis and locate peer-reviewed studies published between 2010-2019. **Result:** This studies prove to increase the patient stability, on 5 days of therapy can reduce the shortness of breath, Reduce the Respiratory Rate (RR) from 28,86 x/mnt to 24,86 x/mnt, increase relaxation due to excretion of Serotonin and Dopamine hormone, increase the amount of FEV1 (2.355-2.855) and FVC (3.22-3.47), facilitate the excretion of sputum due to increasing the tidal volume and opening the system collateral from 13% TO 36,1% and the in vitro antibacterial activities of ethanolic extracts showed 100mg/ml consistency of M.piperita inhibit the growth of M. tuberculosis. **Conclusion:** The effectiveness of this therapy from several journal publications is remarkable. So, it can reduce the risk of complications of this disease.

## ***Keywords:***

ACBT, Aromatherapy, Mentha piperita, Tuberculosis, agroindustry.

## Potential Hydrogen Peroxide for Human Bloodstain Analysis at the Crime Scene

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### ***Abstract:--***

This study is experimental. It used samples of genuine human blood treated of the hydrogen peroxide. Determined the potential of H<sub>2</sub>O<sub>2</sub> for preliminary characterization of human bloodstain, specifically: Time of occurrence of incidence; Time of chemical reaction on the blood; Peroxidase reaction with different time intervals. The appearance analysis method was utilized. The hydrogen peroxide dropped onto the prepared human bloodstain. The human bloodstain obtained from the identified sources. The blood grouped according to its blood type. The determination of blood type done using the anti-sera A and B. Each group of blood type dropped hydrogen peroxide with a time interval of an hour and replicated to three (3) times. A positive control used the luminol- NH<sub>2</sub>.C<sub>6</sub>H<sub>3</sub>.(CO.NH)<sub>2</sub>. It is the organic compound used in an alkaline solution for analytical testing in chemistry. It helped the criminalist to elucidate the bloodstain in the crime scene as part of the search, collect, preserve, and examine evidence. Furthermore, determine the time of occurrence of the possible time of crime incidence. The more fresh-blood is the higher is the bubbling, hence, peroxidase is high due to the presence of hemoglobin. The human blood reacted to hydrogen peroxide faster at early period of time, resulting a reddish pink color. As period of time increases the reaction becomes less.

### ***Keywords***

Bloodstain, Hydrogen peroxide, Luminol, Bloodstain evidence, Crime scene

# A Computer-based Familial Hypercholesterolemia(FH) Assessment Scoring Application based on Various FH Diagnostic Criteria

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## ***Abstract:--***

Familial hypercholesterolemia (FH) is the most common and serious form of inherited hyperlipidaemia. FH is treatable with low cost lipid lowering therapies, leading to a substantial reduction in premature coronary artery disease (CAD) if detected and treated early. Hence, screening for FH in young CAD is of utmost importance due to its tremendous socio-economic impact. Currently, the diagnosis and categorisation of FH patients is done manually using paper-based and this practice has various shortcomings such as paper can be easily damaged and lost, and erroneous computation of score. The goal of this study is to develop a computer-based FH assessment scoring application (FHCatScreen) to facilitate the screening, diagnostic scoring and categorisation of FH by medical practitioners. We develop the FHCatScreen application using four FH screening criteria (DLCC, Simon Broome, US MEDPED and JFHMC). FHCatScreen application able to compare the diagnostic performance of the various FH screening criteria for the Malaysian population. We conduct a preliminary evaluation to evaluate the usability of the FHCatScreen application with medical practitioners. We found that all participants agreed that the system is useful and 80% of participants agreed that the proposed system is successful in reducing the user time to calculate the hypercholesterolemia diagnosed score. The preliminary results indicated that the FH application was reasonably comprehensive, time-efficient and feasible, with an acceptable level of diagnostic accuracy. Hence, it appeared to be suitable to facilitate the screening, diagnostic scoring and categorisation of FH by medical practitioners once the required information is keyed in.

## ***Keywords:***

Familial Hypercholesterolemia, Fh, Diagnosis System, Dlcc

## Contrastive and Experimental Study on the Characteristics of Bauxite during Shipping

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**Yongxing Jin**, Professor, Shanghai Maritime University

**Xiaoxing Xue**, Captain, lecturer, Shanghai Maritime University

**Man An**, lecturer, Shanghai Maritime University

### ***Abstract:--***

International transport of commodities is one of the most important parts of the shipping industry. Among bulk commodities, solid bulk cargo with potential liquefaction is classified as Group A according to the International Maritime Solid Bulk Code, the accidents of which suffered by carriers have aroused attention. Among the Group A, Bauxite has the similar liquefaction behavior during maritime transportation. It is of great significance to find out the liquefaction characteristics of bauxite to illustrate the accident of bauxite carrier and to prevent the occurrence of new accidents. At first, general properties of bauxite was reviewed. And then the distribution of moisture content was found out according to the statistical data, moreover, other properties of samplings were compared with those of other bauxite, such as saturation, particle distribution, compactness and density. Third work to find out characteristics of bauxite is experimental analysis based on the bench of vibration and the rolling table. Liquefaction behavior under vibration condition and fluidization behavior under rolling environment were found out from the bauxite with moisture content above 8%. These boundary conditions of liquefaction and longitudinal fluidization obtained were helpful to decision-making to confirm the transportability of bauxite and the cargo worthiness of carriers. More importantly, the migration mechanism of bauxite particle and moisture helps manage risk and emergency response during the whole maritime transportation.



## Global Citizen Preparation: Enhancing Early Childhood Education through Sundanese Local Wisdom

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**Wibowo Heru Prasetyo**, Civic Education Department, Universitas Muhammadiyah Surakarta, Surakarta, Indonesia

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### *Abstract:--*

In the fourth industrial revolution, the world needs young people to possess critical thinking and communication abilities, as well as collaboration and technological skills, which enable them to participate in an international environment. However, due to the lack of early childhood education, young people in Indonesia lack the innovativeness and competencies which are expected of them. This study aims to discover the traditional activities that enhance early childhood education using local wisdom in Cireundeu, Indonesia. The qualitative approach uses the descriptive method and reveals the consciousness of the indigenous people in Cireundeu to engage in traditional Sundanese and cultural practices by preparing children to become ethical human beings as well as being productive and informed global citizens. The results showed that Sundanese local wisdom which has the principle of think globally and acts locally has an impact on the quality of early childhood education that is better in responding to the era of globalization. Furthermore, this Sundanese local wisdom managed to internalize global awareness values through the development of global's mindset and intellectuality begins in early childhood education in a sustainable manner. The implementation of this study can be applied not only to children in Cireundeu, but also to all children all over the world.

### *Keywords:*

Early childhood education, global citizen, Sundanese local wisdom

## The Industry and Academe: The Catalysts for the Industrial Revolution 4.0

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***Abstract:--***

Technology changes everyday and it keeps on improving every single hour. In the olden times, the First Industrial Revolution created an impact in which steam engines heated the water using coal to create steam. The steam engine is being used during the Industrial Revolution. Most of the companies are situated near the river since water became the good source of power. This was also the start of the first power loom in which the weaving mill began to use steam engines.

The Second Industrial Revolution started the use of electric energy and the first assembly belt. Moreover, the third Industrial Revolution became the birth of Electronics and Information Technology, the First Programmable Logic Controller and the Wireless Computing. The wireless computing has been introduced to enhance and improve the communication systems all over the world. The Fourth Industrial Revolution is the current IR in which it becomes the fusion of advanced technologies. This is the age in which interconnection-enabling technologies, machines and products communicate with each other.

Then came the birth of Internet-of-Things (IoT). This is the period for smart manufacturing and the time of cyber-physical systems and augmented age. Technology drivers and pillars came out such as autonomous robots, big data analytics, cloud computing, 3D printing (additive manufacturing), IoT, System Integration, Cybersecurity, Mixed Reality and Simulation. To be able to prepare the people become the workforce of the future, the 21st century skills need to be implemented and the new learning paradigm should be used. Outcomes are expected to develop the students and people become solution providers, market driven, keen observers, attentive to details, committed to excellence and someone who possesses grit.

***Keywords:***

Industrial Revolution 4.0, IoT, Technology drivers, Technology Pillars

# Redesign Website of Engineering Faculty in University of Indonesia Using Fuzzy Delphi Method and Fuzzy Cognitive Maps

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## ***Abstract:--***

Utilizing website in business process has become essential. But lot of web designer have no respect of using methodology in developing a website causes the quality that website do not meet the needs of its users. On the other hand, usability level of the website could not attract a lot of visitation from any user. On this paper, researcher using Engineering Faculty in University of Indonesia's website to be studied. To increase the usability of this website, research conducted by redesign the website using Fuzzy Delphi Method to determine the media type to presenting each service and also to determine the services layout of each web page. In addition, this research also uses Fuzzy Cognitive Maps to models the interrelationship between each services and media type. Resulting the prototype of 12 web page for website owned by Engineering Faculty in University of Indonesia with total 36 services provided in this website to gives an optimal information for the users.

## ***Key Words:***

Fuzzy Delphi Method, Fuzzy Cognitive Maps, Faculty Website

# Automated Lane Detection of Gel Electrophoresis Image Using False Peak Elimination

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**Sharifalillah Nordin**, Faculty of Computer and Mathematical Sciences, Universiti Teknologi MARA, Malaysia.

**Umikalsum Mohamed Bahari**, Faculty of Computer and Mathematical Sciences, Universiti Teknologi MARA, Malaysia.

## ***Abstract:--***

Large numbers of previous work regarding the study of lane detection in DNA gel image have been proposed and performed on good quality images. Current lane detection methods that are available do not accommodate techniques that can be performed automatically on poor DNA gel image. Lane detection is the first step in any gel image analysis techniques which involved tedious and time-consuming tasks. The accuracy of this step is often compromised by technical variation inherent to DNA gel image. For that reason, the aim of this thesis is to identify and propose a method that is effective in detecting the lane in poor DNA gel image of plants. The imperfection of DNA gel image caused by the electrophoresis or during the acquisition of the gel image causes many types of noises, which contaminate the resulting image. These errors and noises significantly affect the processing and analysis of the DNA gel image. The conducted experiment examines 184 poor DNA gel images collected from Agrobiodiversity and Environment Research Centre, Institut Penyelidikan dan Kemajuan Pertanian Malaysia (MARDI), Malaysia. The DNA gel images were produced by electrophoresis-based method using polymerase chain reaction (PCR)-based marker system. There are two highlighted aspects performed to achieve the objective of this thesis that are image enhancement and lane detection. The image enhancement of the poor DNA gel image is performed using two different approaches that are spatial and frequency filtering. The two approaches are compared and the quality of the enhanced images was accessed and evaluated using objective image quality metric that is peak signal-to-noise ratio (PSNR). For lane detection, we describe the convention of threshold value in the analysis of poor DNA gel image to eliminate false peak contained in the intensity profile obtained from the enhanced image data projection. A false peak elimination method was proposed in which a set of threshold interval was applied in the peak detection process to eliminate the false peak and retain the true peaks representing the lane's border. The output of this method is used to track the lane's border, further the individual lane is identified. Evaluation of the results from the proposed method in detecting the correct lanes was done by carrying out the analysis based on visual observation. Later, the performance of the method was evaluated empirically where the performance being assessed according to the discrepancy measures on the outcome of the lane detection process using confusion matrix. Based on the two approaches of image enhancement process, the average PSNR for the spatial domain filtering is 42.4727 dB whereas frequency domain filtering is 39.1417 dB. Therefore, spatial domain filtering become an exceptional approach for the enhancement of the poor DNA gel images. Further, the performance of the false peak elimination method proposed in lane detection and tracking process results with recall rate and accuracy of detecting the true peaks are 97.63% and 87.88% on poor DNA gel images while 99.57% and 95.96% on good DNA gel images. This finding shows that the proposed false peak elimination method, utilizing a set of optimal threshold interval, proves to be a promising lane detection method for both poor and good quality DNA gel images. Additionally, when the tasks of lane detection and tracking are implement automatically, the false peaks can be adequately eliminated and significantly ease the subsequent process of DNA gel image analysis.

# Performance Analysis of Electric Vehicles in Worldwide Harmonized Light Vehicles Test Procedure via Vehicle Simulation Models in ADVISOR

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**Stella Morris**, Department of Electronics and Electrical Engineering, Lee Kong Chian Faculty of Engineering and Science, Universiti Tunku Abdul Rahman, Bandar Sungai Long, Selangor, Malaysia

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## ***Abstract:--***

With the introduction of the Worldwide Harmonized Light Vehicle Test, an all-new drive cycle proposed by UNECE, is set to standardize the global drive cycle testing in determining emissions compliance and energy and fuel consumption. This paper aims to evaluate the performance and the effect of the new driving cycle on selections of electric vehicles, based on major regulatory drive cycles, which include NEDC, FTP 75 and JC08. Using Matlab's ADVISOR simulation, various vehicles are simulated. The vehicles include a hatchback of Nissan Leaf 2016, a sedan of Tesla Model S60 and a low power electric vehicle of Mahindra e2o Plus. Out of the various driving cycles, the WLTP Test Cycle possess the highest energy per unit distance to decently sized vehicles, which is consistent with the objectives of the new driving cycle in obtaining more realistic results. Nevertheless, the low powered electric vehicle is found to perform differently in the WLTP Test Cycle. And that it can be affected by the strategic low speed operation of the vehicle during the drive cycle. Based on manufacturer's vehicular specifications, the paper also encompasses a method to simplify the complex modelling of the vehicle on the drive cycle's simulation, yet maintaining sufficient accuracy in its final emission results.

## ***Key words:--***

Worldwide Harmonized Light Vehicles Test Procedure (WLTP), Driving Cycle Standards, Electric Vehicle, Vehicle Test Procedures, ADVISOR

## Assessment of Competency Level of Safety Engineers in the National Capital Region

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***Abstract:--***

Building construction is on the upswing especially in the National Capital Region of the Philippines due to the demand of development. Safety has been subject of many tragedies, studies, debates and improvements. It is undeniable that construction is everywhere since it is the one of the many priorities of both the private and public sectors. Safety engineers are the responsible for the assurance of implementing the acceptable levels of safety standards. Their primary goal is to manage, eliminate and reduce risks. They monitor the work environment, inspect buildings and machines, and implement safety features. The severity of a particular failure may result in fatalities, injuries, property damage and loss of money. Safety engineers reduce the frequency of failures and ensure that the consequences are not life threatening. Trainings and seminars are some of the key activities to hone and develop a competent safety engineers. Thus, presence of a competent safety engineer is one of the keys to maintain the working environment with zero accident workplace.

***Keywords:***

Safety engineers, construction, competent, safety standards and zero accident workplace

## Implementation of Augmented Reality in Developing Teaching Aid for Kirchhoff's Law

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***Abstract:--***

In this study, an application using the technology of Augmented Reality (AR) has been developed as teaching aid by using the ADDIE model to help students to understand the Kirchhoff's law, focusing on the Ausubel's cognitive domain. In this application, users can clearly see the animation, which shows the flow of current in the basic circuit of the first Kirchhoff's law (current) and the second Kirchhoff's law (voltage). Additionally, various components have been added to see the basic functions of the components used in circuits such as resistors, switches, and lights. This application will recognise the type of Kirchhoff circuit based on the flashcards targeted using the smartphone camera. 3D objects along with animations will be displayed afterward. In order to evaluate suitability of this software, a questionnaire was constructed and answered by 10 final semester students in the School of Education, Universiti Teknologi Malaysia, which is also the future teachers who know the subject well. The data were then analysed, and the findings showed that the respondents agreed that the AR application developed has the characteristics of Ausubel's cognitive domain and are ideally developed using the ADDIE model.

## Fuzzy Logic Based Decision Support System for Mangroves Restoration at Less Mortality

**Janice Dyan G. Quiloña**, Cebu Institute of Technology, Cebu City Philippines

### ***Abstract:--***

Experts claimed that the failure by 80% - 90% of government-initiated mangrove restoration projects were directed towards ignorance of the real mangrove inhabitable environment. Thus, information dissemination recently steered from flyers and manuals to development of mobile and web apps, aiming for lower mortality rates. In this study, a Decision Support System (DSS) was developed that is capable of pinpointing where and when to plant, and what mangrove species to plant at a given location. It aims to give the users some scenarios of how plants will probably grow at a given location, and planted at a given time. The DSS was designed using knowledge-based system approach, where decision tables was based from studying experts' mangroves ecosystem restoration guidelines. Factors identified were considered user inputs to determine rules for inference engine to check on most appropriate planting techniques, time and locations. To determine accuracy of the DSS, the system output were compared to observed data from 6 local mangrove plantations in the province. Test results showed 91% accuracy from 60 random output comparison from actual situation on field.

### ***Keywords***

Janice Dyan Quiloña is a graduate student at Cebu Institute of Technology, Cebu City Philippines taking Doctor in Information Technology. Currently working as faculty at Eastern Samar State University, Borongan, Eastern Samar.



# Adversarial System in Answering the Criminal Justice System in Indonesia Towards Revolution 4.0

**Kurniawan Tri Wibowo**  
**Prof. Dr. H. Eman Suparman**  
**Dr. H. Jawade Hafidz**

***Abstract:--***

The internet has given birth to new concepts in various fields, such as in the field of trade (e-commerce), education (e-learning), government (e-government), business (e-business) and politics (e-democracy) . This new concept certainly brings positive benefits for efficient and effective performance. This also happened to court performances that also experienced changes using the internet. Post the Supreme Court issued MA Regulation (PERMA) Number 3 of 2018 concerning administration in court electronically. With the enactment of Supreme Court Regulation No. 3 of 2018, this became an initial milestone in the revolution in the case administration in court. Then is it only in the case administration revolution in court, what about other systems? and how the criminal justice system in Indonesia responds to the challenges of the 4.0 revolution.

The current case administration revolution in court can only change by touching on the procedural law of civil procedure, military justice, and state administration, all of which have similar systems, namely the principle of civil justice / adversarial system. Civil procedural law is open in accepting technological changes, unlike criminal procedural law. The criminal procedural administration revolution will only be able to change, if there is an adjustment of the same paradigm of thinking as the civil procedural law, and the adversarial system provides it all. The principle of efficiency and effectiveness will certainly be an important point in the case administration revolution in court. Therefore the criminal justice system must also place itself in an efficiency and effectiveness based court. For example, in a quick trial, simple costs will not be realized if Indonesia still uses KUHAP. Case proceedings where the suspect has acknowledged all the incidents in the indictment, which took at least 3-4 months. With the plea of training in the adversarial system the efficiency and effectiveness of the criminal justice system can be realized.

**Keywords:**

Criminal Justice System, Revolution 4.0 and Adversarial System

## Competency to ICT among Teachers in Digital Learning

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### *Abstract:--*

In the emerging countries, ICTs are used largely to increase access and to improve the relevance and quality of education. ICTs have validated prospective to increase the options, access, participation, and success for all students. Digital learning refers to the variety of literacies related with the use of new technologies. Digital learning is an essential life skill in today's knowledge increased the information of the world. Digital learning establishes new practices relatively than new instances of established practices. Expertise in digital literacy discusses to the capability to read and write using online sources, and includes the aptitude to select sources related to the task, produce information into a logical message, and communicate the message with an audience defined digital learning as the ability to find and evaluate information by using ICT.

### *Index Terms*

ICT, Digital learning, teaching learning process, competency.

# Enhancing Students' 21<sup>st</sup> Century Learning Skills through Augmented Reality Game, THE HUNT

**Bernadet Castillo-Macaraig**  
**Aurora Pargas-Tolentino**

***Abstract:--***

The world is changing rapidly. The so-called millennials are the parents of students belonging to Generation Z or Generation Alpha, the social media kids. Generation Z and Alpha has changed the way learning happens in higher education because of their dependence in technology. These learners contribute to changing school curriculum so as to provide the needed skills for the 21st Century learning. One of the emerging technologies in this era is Augmented Reality which is being used in game development. Augmented Realty Games (ARG) when properly designed for pedagogical purposes can stimulate the genuine practice of 21st Century skills.

Taal Heritage Hunt also known as “THE Hunt” is an ARG that explores the heritage town of Taal, Batangas. This ARG was developed by students and their adviser from University of Batangas in 2015 with the objective of creating an AR tour for Taal to assist tourists and help boost tourism. This mobile game was created to showcase the cultural heritage of Taal, Batangas. It takes the gamer back to the origin of the town, virtually traveling the whole town and enjoying its sceneries while learning things which are considered the Batangueño local knowledge. This was done using the technology of AR app installed in mobile devices (Tolentino & Macaraig, 2016). Faculty researchers from the same school also tested the effectiveness of this ARG as a learning tool in teaching the course in History (Social Science 101) and found it more effective than the traditional teaching approach.

This study aimed to revisit the mobile game, THE Hunt, specifically to update its features based on the 21st Century learning skills. The respondents were two hundred (200) college students who are also mobile gamers. A checklist was used to evaluate the game. After playing, student-respondents were asked what features may be added to improve the ARG. The indicators included in the checklist were based on the characteristics of the 21st Century learning skills.

As a result, the researchers were able to identify and include additional features to the AR game necessary to make it a more effective learning tool reflecting the characteristics of the 21st century learning skills. It is therefore recommended exploring the use of Augmented Reality Games together with other pedagogical approaches to support the changing learning needs of the students.

***Keywords:***

21<sup>st</sup> century learning skills, Augmented Reality, Augmented Reality Game

# HWYL: An Edutainment Based Mobile Phone Game Designed to Raise Awareness on Environmental Management

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**Heintjie N. Vicente**, FEU Institute of Technology, P. Paredes St. Sampaloc, Manila, Philippines

## ***Abstract:--***

HWYL (meaning “a stirring feeling of emotional motivation and energy”) is a 3D isometric puzzle-adventure game for Android devices. The whole game revolves around the adventures of Thomas as he unknowingly helps the mayor and the townspeople in solving environmental problems through playing meaningful minigames just so he could be able to go to the pet store to buy Doge Snax to his dog Dank. The mini-games will comprise of different casual games that focuses on teaching the players about the environment and how to save it.

## ***Keywords:***

3D, Android Mobile Game, Edutainment, Environment Management

# Implementation of Search Engine with Lucene in the Document Management System

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## ***Abstract:-***

Manually managing the documents is a very challenging job, an automated or organized system can support to manage and organize the documents in an effective manner. Software like Document Management Systems (DMS) is a crucial approach that manages well to certify the quicker and effective overall working process in the organization. While searching documents it takes a lot of efforts and time, recent researches have shown that office worker has spent their nearly 10% of an average day for trying to search existing documents and information within documents. In this research, a search engine with Lucene in Document Management System (DMS) has been proposed, which can index and search document in any format. This paper presents a feature of advanced searching not only the document but also full-text search within a document using the Apache Lucene. The DMS in our proposed system contains the web-based admin panel, client application, and mobile application. The results proved that the proposed searching system is a fast and improved text retrieval that help users to search effectively and retrieved information rapidly.

## ***Keywords:-***

Apache Lucene, Search Engine, Document Management System, OpenID, Mobile Application, Web Application.

## Mathematics Anxiety Scale for Filipino College Students

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***Abstract:--***

The study developed a Mathematics anxiety scale for Filipino college students. Items were adapted from 25-item MARS revised by Alexander and Martray (1989). The items were further explored using exploratory factor analysis to contribute on the attempt of establishing multidimensionality of the mathematics anxiety scale and to determine the other factors common among the Filipino college students. On 250 college students' scores, exploratory factor analysis extracted the 25 – item instrument into three factors with eigenvalue of 10.88, 2.21, and 1.14 respectively. The Scree test shows the smooth decrease of the eigenvalues of the identified three factors. The three factors are labelled as numerical task anxiety (9 items), mathematics test anxiety before the examination (3 items), and mathematics test anxiety during the examination (3 items). The new scale was highly consistent with the overall reliability of .94. Convergence of the three factors was determined and is significant at .01 level of significance. The new scale is valid and reliable and could be used as a screening tool, a placement tool, or a research tool.

***Keywords :***

Mathematics anxiety, Numerical anxiety, Mathematics Test Anxiety

# The Effectiveness of Honey Dressing As The Complementary Therapy for Diabetic Foot Ulcer Patient: A Literature Review

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***Abstract:--***

Diabetes Mellitus including non-communicable diseases is one of the degenerative diseases caused by elevated blood sugar levels due to deficiency or insulin resistance that affects physical health as well as the complications of acute and chronic. Estimates of IDF, there are 382 million people living with diabetes in the world in 2013, and in the year 2035 that number is expected increase to 592 million people. People with diabetes mellitus in the long term can be threatened with diabetic foot ulcer. In diabetic foot ulcers, skin and tissue around the wound to be colored black and smelly where these conditions require treatment in order to avoid more serious problems. Honey dressing has been applied to clinical practice healing wound. The honey dressing is effective for a wound in diabetic foot ulcers. Honey has a function to inhibiting the growth of bacteria. Data were search through NCBI, National Library, PROQUEST, IDF and Science Direct searched for relevant articles Published through the year 2013-2019. The analysis results from journals stated that honey dressing therapy for diabetic foot ulcer is effective. Evidence of effectiveness of honey dressing proven from 12 articles that use of honey therapy more effective compared to using other therapy.

***Keywords:***

Diabetic Foot Ulcer, Honey Dressing, Complementer Therapy

# Effects of Vacuum Degassing on the Split Mould and Counter-gravity Precision Casting of Miniature Figurines

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## ***Abstract:--***

Precision casting of miniature figurine (MF) poses huge challenges to conventional fabricators owing to the complexity of the casting process and the difficulty encountered during production of intricate and complex features of MF. To address this challenge, we adapted two integrated techniques namely, the split mould and counter-gravity wax aspiration techniques. These two techniques were therefore used to produce the wax pattern and intricate parts of the MF, respectively. Furthermore, the effect of vacuum degassing on the structural integrity of the MF produced was investigated. The results obtained reveal that the integrated technique yielded a better wax pattern for the precision casting while the MF models with a degassing system eliminated the air-entrapment effects commonly observed in MF without the degassing systems. Moreover, the introduction of split mould in the casting process prevented problems generally associated with wax extraction from its forming mould.

## ***Keywords:***

Counter-gravity wax aspiration, Miniature figurine, Precision casting, Split mould, Vacuum degassing.



## Subjective Logic in Natural Gas Storage Valuation

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### ***Abstract:--***

This work aims to solve natural gas storage facilities and model the admissibility of storage operational policies with using the subjective logic. Firstly, in order to maximize the benefit from gas price fluctuation, a spot-based valuation framework is applied to compute the intrinsic value of the facility and find an optimal schedule of injections, store and withdrawals. Secondly, the probabilistic logic is used to determine degrees of the admissibility of storage operational policies. Then, the approach reasons some of the strategies are not admissible any more based on their admissibility numbers and provides a short list of the admissible strategies. The advantage of combining the storage valuation method with the subjective logic is quantifying the uncertainty of how much simulated optimal strategies are reliable and closed to real world situations.

### ***Keywords:***

Natural gas storage valuation, natural-gas market, subjective Logic, stochastic control, and Least-Square Monte Carlo.

## Twins Paradox Prediction (Einstein's Theory Of Relativity) Needs A Different Perspective To Look On, There Is No Such Paradox.

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### ***Abstract:--***

The 'twins paradox' ,as proposed by Einstein's theory of relativity observes a contrast feature in ageing of twins:when one is on a return trip (with high speed approaching speed of light) and the other remains at rest in an inertial frame,they age differently.

But,the assumption made by Einstein is ideal,that is there is no acceleration and deceleration in the return trip and high speed remains constant-both forward path and return path,gaining the same instantly without external agent, which is not possible.

When the acceleration and deceleration(real scenario)is taken into account,the picture changes.And,the differential times(as observed from different frames:one attached to the moving system containing one of the twins, and other of the twins remaining at rest throughout), is actually misleading because in the overall process the differential times will agree and the twins will age exactly the same.

Thus,the conclusion is we need a rethink:time dilation would be differential during the acceleration and deceleration of the frame of reference,supported by calculus.

# Convolutional Neural Network with Mixed Pooling for Script Identification from Scene Images

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## ***Abstract:--***

This study aims to investigate the performance of Convolutional Neural Network (CNN) for script identification from scene images with mixed pooling, namely max-pooling and average pooling. Automatic script identification is crucial prior to translation or character recognition processes in multi-script scene images such as signage and shop names. Current Optical Character Recognition (OCR) is script dependent and the text is usually within a standard aspect ratio. Nearly all of the CNNs that are designed to recognize object normally abide by basic architecture where the convolve layers are alternately accompanied by pooling layers that are either max-pooling or average pooling. A regular approach to expand the CNN accuracy is by designing deeper and complex CNN architecture. However, this approach is normally beyond the capacity of most practical CNN applications. In this study, experiments are conducted at convolve and pooling layers to see their influences to the CNN performance. Results of the experiments on two publicly available multi-script datasets prove that CNN with mixed pooling produces better accuracy compared to max-pooling or average pooling only.

# A Conceptual Framework for the Impacts of Organisational Cultural Capabilities on Customer Experience Management and Firm Performance

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## ***Abstract:--***

In today's hyper-competitive and customer-centric business environment, it is those who know customer experience management well and harness the knowledge about customers can achieve greater success in the market. Customer experience management is one of the central objectives in today's business environments that allow organisations to integrate technologies, idea, method and approaches to our worlds today. The challenging part is how to make sense of them in a way that delivers competitiveness to the firm and excellent customer experience. It is the process of making sense of the future technologies and estimates the future needs for the customers; it includes understating the customer and their evolving needs, matching them with the advancement of technologies. The focus of research is on the nature and context of Customer experience management as a disruption, culture and other organisational IT and HR practises included to manage disruptions, collaboration and engagement between organisations, managers and employees and improve the quality of working life for the employee through IT, Database support. This study investigates the impact of organisational cultural capabilities on customer experience management (CEM) through employee experience and customer experience and consequently, on firm performance. As this study is confirmatory in nature, the aim is to test empirically certain hypotheses on the relationships between constructs about organisational cultural capabilities, employee experience, customer experience, customer experience management, and firm performance. The first research objective is to identify and explore the impacts of the cultural capabilities on customer experience management. The second objective is to empirically test the validity of the service-profit chain (SPC) theory to comprehensively explicate the relationship between organisational cultural capabilities for customer experience management, employee experience, customer experience, and organisational performance. The role of customer experience as a mediator between employee experience and organisational performance will also be investigated. The hypotheses and the relevant constructs are derived from a comprehensive literature review. A model is developed to depict the relationships underpinned by the dynamic capabilities theory and the service-profit chain theory.

# WomenSiren: A Mobile Application for Public Awareness on Violence against Women

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## ***Abstract:--***

The research entitled “WomenSiren” aims to develop an innovative mobile application to provide women with tools to protect themselves from “gender-based violence”.

The mobile application gives the user the capability to send incident report, which gives a viewer an overview of where possible “harassment hotspots” and dangerous areas are located. Not only does it offer women the ability to avoid places where harassment seems to be common, but it can also provide authorities important data on areas where women’s harassment is concentrated and security measures need to be increased.

It also educate user regarding Laws on women, furthermore with the aid of GPS, it will track the current location of the user. If the user feels unsafe it will send notification regarding the user’s location to the primary contact and the user may view the different government agency help lines.

## ***Keywords:***

Android Mobile Application, Violence Against Women, PNP Women’s Desk, Street Harassment, Sexual Violence

# Adaptive LCM Clahe to Enhance the Contrast Of Brain Tumour Images

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## ***Abstract:--***

The Detecting brain tumor by image capturing device such as X-rays, CT-scan and MRIs are in common use. Mostly MRI based imaging are not only costly but also time consuming. MRI has advantages that imaging of cancerous cells is possible from different angles. In this paper, we have proposed a new pre-processing technique that may enhance the contrast of images to detect tumors effectively. In current method, we have used adaptive block size techniques and compared with existing technique as mean squared error (MSE), peak signal-to-noise ratio (PSNR), and structural similarity (SSIM). Our results shows a significant improvement as compared to existing techniques.

## ***Index terms -***

Image Processing, Image Enhancement, Histogram, Equalization, Brain MRI image, Brain tumour, Noise, PSNR.

# A Tailored Support Resource for New and Developing Teachers and Trainers

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## ***Abstract:--***

The First 40 Days is a tailored classroom management and support resource for new and developing teachers and trainers practicing in a range of education and training settings. As an aid to classroom management, this text visits existing, and sometimes innovative interventions in classroom management. It does so with the aim of enhancing teacher engagement to achieve greater levels of learner motivation and attainment. Positive use of language, gestures and movement techniques combine to produce a valuable set of functional delivery tools. Many of the strategies incorporated in this text are focused on assisting teachers in encouraging even the most difficult of learners to become more engaged participants in their own learning experience.

New teachers are exposed to the challenges and the professional characteristics essential to focus talent and encourage individual student capacity.

Behavioural management techniques, (which have a tendency to be overlooked by some teachers, but can be of great value), are a central theme of this book.

The overall theme of this book then is developing your teaching strategies to achieve better results for learners. In achieving this aim the text addresses a wide range of key issues and answers to some of those early questions related to the delivery of successful teaching and learning.

The following themes and questions are considered:

- How do I prepare and build an interesting programme or session?
  - How do I effectively manage the learning environment so as to guide student behaviour in any learning environment?
  - How do I engage learners and maintain their interest?
  - How do I enable learners so that they become more aware of their individual strengths and weaknesses?
  - How do I contextualise lesson plans and develop fair and reliable assessments?
- There are also a set of tools which will help you to achieve success in basic classroom management. These tools will be revealed as you navigate through the pages of this book.

The primary goal of each individual chapter is to provide basic classroom management approaches, supported by examples, phrases and gestures, aimed at helping the practitioner attract and maintain the interest and attention of their students.

Handling challenging attitudes and behaviours you may encounter in the classroom, and possible strategies for coping are also addressed. Emphasis in this regard is on the need for patience, consistency and confidence, regardless of the attitude and behaviour of students. It is important to note that rather than offering an additional academic contribution to classroom management theory, this text comes entirely from the perspective, and real life experience, of practical classroom management, as applied successfully across a wide range of classroom settings.

