ICAKMPET

3rd INTERNATIONAL CONFERENCE ON ADVANCING KNOWLEDGE FROM MULTIDISCIPLINARY PERSPECTIVES IN ENGINEERING & TECHNOLOGY

ICAKMPET

26TH & 27TH JANUARY, 2023
PHILIPPINES

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INSTITUTE FOR ENGINEERING RESEARCH AND PUBLICATION (IFERP) PHILIPPINES CHAPTER

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Preface

We cordially invite you to attend the 3rd International Conference on Advancing Knowledge from Multidisciplinary Perspectives in Engineering & Technology (ICAKMPET-2023) which will be held as Hybrid Event on 26th & 27th of January 2023 in Philippines. The main objective of this conference is to provide a platform for researchers, students, academicians as well as industrial professionals from all over the world to present their research results and development activities in Engineering & 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 peerreviewing 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 October 2022, the Organizing Committees have received more than 210 manuscript papers, and the papers cover all the aspects in Research & Innovation. Finally, after review, about 50 papers were included to the proceedings of ICAKMPET-2023.

We would like to extend our appreciation to all participants in the conference for their great contribution to the success of ICAKMPET-2023. We would like to thank the keynote and individual speakers and all participating authors for their hard work and time. We also sincerely appreciate the work by the technical program committee and all reviewers, whose contributions made this conference possible. We would like to extend our thanks to all the referees for their constructive comments on all papers; especially, we would like to thank to organizing committee for their hard work.

About IFERP

Institute for Engineering Research and Publication (IFERP) is a multidisciplinary professional organization dedicated to Research and development within the field of science, engineering and technology. IFERP is a preponderant body that has brought technical revolution and development of science and technology. The IFERP-forum constitutes of professional experts and overseas technical leaders. There is no stone unturned to strengthen the spheres of science, engineering, and technology. These days IFERP is one among the leading publisher of research papers in its prime quality peer-reviewed journals, continuing and analysis magazine.

The Institute provides an excellent scope of research and development to genii and experts operating within the field of engineering by providing monetary aids by that economic constraints will not create a hindrance to the technical growth and analysis development. The institute is supported by its International advisory Board (IAB) that isn't restricted to the landmass rather we've intellects from geographical area to spice up our organization.

OUR MISSION

To assure quality of incubation and innovation processes from nook and corner of world.

To connect professionals at a integrated platform for growth to divert knowledge and skills towards sustainable application of professional education.

To ensure excellent opportunities for sharing and gaining knowledge through our professional activities and scientific conferences.

To work with organisations to upgrade scopes of professional studies and research by monitoring further opportunities and applications.

OUR VISION

Of a united platform to explore research with opportunity to innovate multidisciplinary scopes and applications of professional studies.

Of a conglomerate of scientific and academic associations working for humanity.

Of digitalising innovation processes through our professional networking services.

Message from Managing Director

Mr. A. Siddth Kumar Chhajer

Managing Director & Founder,
Institute For Engineering Research and Publication (IFERP)

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

The goal of the ICAKMPET-2023 is to provide knowledge enrichment and innovative technical exchange between international researchers or scholars and practitioners from academia and industries in the field of Engineering & Technology. This conference creates solutions in different ways and to share innovative ideas in the field of Engineering & Technology. ICAKMPET provides a world class stage to the Researchers, Professionals, Scientists, Academicians, and students to engage in very challenging conversations, assess the current body of research and determine knowledge and capability gaps.

ICAKMPET-2023 will explore the new horizons of innovations from distinguished researchers, scientists and eminent authors in academia and industry working for the advancements in Engineering & Technology from all over the world. ICAKMPET hopes to set the perfect platform for participants to establish careers as successful and globally renowned specialists in the Multidisciplinary Perspectives in Engineering & Technology fields.

Message from Chief Executive Officer

Mr. Rudra Bhanu Satpathy

CEO & Founder,
Institute For Engineering Research and Publication (IFERP)

On behalf of Institute for Engineering Research and Publications (IFERP), I am delighted to welcome all the delegates and participants around the globe to participate in the "3rd International Conference on Advancing Knowledge from Multidisciplinary Perspectives in Engineering & Technology (ICAKMPET-2023)", which will transpire on the 26th & 27th of January 2023, in Philippines.

It will be a great pleasure to join with Engineers, Research Scholars, Academicians and Students all around the globe. You are invited to be stimulated and enriched by the latest in engineering research and development while delving into presentations surrounding transformative advances provided by a variety of disciplines.

I congratulate the Reviewing Committee, Coordinator (IFERP) and all the people involved for their efforts in organizing the event and successfully conducting the International Conference and wish all the delegates and participants for their virtual presence.

Keynote Speaker

Marizen B. Contreras

Associate Professor, College of Engineering,
University of Batangas Batangas, Philippines

Engr. Marizen B. Contreras is a Registered Professional Industrial Engineer of the Mechanical Engineering Department of the College of Engineering of the University of Batangas, Batangas City, Philippines. She is a full-time Associate Professor at the College of Engineering and the Graduate School of the University of Batangas, where she finished her graduate studies in Business Administration and undergraduate studies in Industrial Engineering. She has also finished her academic requirements in Doctor of Business Administration at Pamantasan ng Lungsod ng Maynila, Philippines, where she obtained her MS degree in Management Engineering. Prior to her present designation, she was assigned as the chairperson of Industrial Engineering at the University of Batangas for 8 years. She is an ISO Auditor, ALCUCOA Accreditor, researcher, adviser, and statistician. Different professional organizations, local and international, recognized her scholarly works and vested her with the following awards: Alpha Top Life Long Learner of the Year 2022, Best Presenter at the International Conference on Innovative Research in Engineering and Technology (ICIRET 2021), Outstanding Paper Award recipient at the World Conference in Business and Management 2018, Best Presenter Award at 2019 – IInd International Conference on Business, Economics, Law, Language, & Psychology (ICBELLP), Best Paper Award at 5th Hernando B. Perez Search for the Best Faculty Research Paper, Best Quantitative Paper Award at the 13th Network of CALABARZON Educational Institutions, Inc. (NOCEI) Research Forum and Selected Paper Award recipient at the World Conference in Business and Management 2019. She served as Session Chair at WCBM 2018 (Jeju National University) and 2019 (University of Kuala Lumpur). She also served as Keynote Speaker at the International Conference for Science and Technology Research (ICSTR 2019) at Ramada Grandview Hotel, North Point, Hong Kong, International Conference for Science and Technology Research (ICSTR 2020) at Nine Tree Premier Hotel, Myeongdong 2, Seoul, South Korea, 7th ICSTR Bali – International Conference on Science & Technology Research, and 5th ICSTR Rome – International Conference on Science & Technology Research. She has published her research papers in Kalinagan Journal and Global Business and Finance Review 2018, a Scopus (Elsevier) indexed journal.

Session Speaker

Dr. Ummi Naiemah Saraih

Associate Professor, Faculty of Applied and Human Sciences,
Universiti Malaysia Perlis Perlis, Malaysia

Dr. Ummi Naiemah Saraih served as an Associate Professor in the Faculty of Business and Communication, Universiti Malaysia Perlis (UniMAP). She also holds the post of Head of the Centre of Excellence for Social Innovation and Sustainability (CoESIS), Universiti Malaysia Perlis (UniMAP), Malaysia. She graduated from Universiti Utara Malaysia (UUM), Malaysia with a Bachelor of Human Resource Management Degree in 2000, a MSc. Management Degree in 2007 and a PhD. Management Degree in 2014. In her present research, she is interested in organizational behaviour and human resource management, with a special emphasis on these two research domains. She has more than a hundred journal articles and proceedings; as well as more than ten books and book chapters to her credit. Her research has been published in a number of prestigious journals, including Kybernetes, International Journal of Innovation Science, Journal of Applied Research in Higher Education, International Journal of Educational Management, Humanities and Social Sciences Reviews; International Journal of Innovation, Creativity, and Change; Management Science Letter; International Journal of Psychosocial Rehabilitation; and Journals of Critical Review.

Session Speaker

Mr. Dhaval Mehta

Deputy General Manager-Business Ethics and Compliance (IRF)
Lupin Limited, Mumbai, Maharashtra, India

Dhaval Mehta, an engineer at heart and also an MBA in Marketing & Finance is an experienced leader in the Pharmaceutical Compliance space. He is a father of one and enjoys his time with his son doing outdoor activities!. He has experience in Consulting, Risk Advisory, Investigations, Compliance, Culture and Management Assurance across several sectors. He has worked with PwC, EY, Pfizer and Sanofi before taking up his current assignment as Deputy General Manager at Lupin India ! He enjoys sharing and learning from others. His favourite expression is 'Humility is the True measure of Success'.

Session Speaker

Dr. S K Gupta

Managing Director, RVO of Institute of Cost Accountants of India
Gurgaon, Haryana, India

Dr. S K Gupta is a Post Graduate in Commerce (Gold Medalist), FCS, FCMA, Ph.D. (Corporate Governance) with over 42 years of corporate experience in leadership positions with various public and private sector organizations in the domains of Finance, Costing, Internal Audit, Legal and Company Secretarial functions. He has dealt with Mergers and Acquisitions, Corporate restructuring, Anti - Dumping Duty and Corporate Governance mechanisms. Currently Dr. Gupta is the Managing Director of the Registered Valuers Organization of the Institute of Cost Accountants of India.

Session Speaker

Mr. Christian Wagner

Director of Automation, Hoffmann Group,
Hemmingen, Lower Saxony, Germany

Christian Wagner, born September 19th, 1967 in Nuremberg, Germany Father of 5 sons, living in Germany, lower saxony More than 30 years in the machining industry, related to mainly cutting tools and processes. Successful implemented groundbreaking technologies lie in superhard materials and other cutting tools into the European machining industry. Since 2018 deeply involved in automation and robotics for cnc machine tool tending, plus processes in the ecosystem. The broad experience in the machining industry gives me a full view of the situations and problems companies are facing in today´s shopfloors. Over the years I did many huge projects in automotive, defense and other industries, while always using the best technologies to improve processes and machining solutions. Also including pre and post processes, like honing, coating, metrology and others.

Session Chairs

Dr.M. Sujithra

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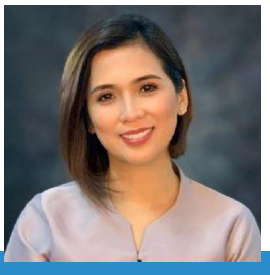

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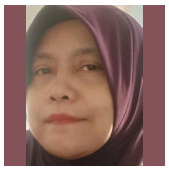

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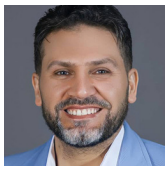

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Preliminary Systematic Literature Review on the Adoption of Security as a Service (SECaaS)

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Abstract:

Security as a Service (SECaaS) involves delivering security applications and services via the cloud computing technology to consumers, known as subscribers. Inspired by software as a Service (SaaS), the SECaaS approach promises to provide a high level of security and resources saving. Recent studies revealed numerous benefits of SECaaS as an efficient security model for SaaS applications. However, there is little research about its current adoption and future development. This paper aims to fill this gap by conducting a Systematic Literature Review (SLR) that summarizes and analyzes current and past SECaaS development and adoption. The analysis involves classification according to an enhanced SECaaS taxonomy. The SLR began with searching all related literature from well-known online repositories published between January 2011 and October 2021. Furthermore, identified inclusion-exclusion criteria were applied to filter the relevant articles. The study has so far obtained a total of 19 papers from 663 papers that exactly met all the stated criteria. The analysis revealed five concerns by potential SaaS tenants about the adoption of SECaaS and five key factors that make SECaaS as a preferred security mechanism over traditional approaches. Apart from that, seven metrics were identified to evaluate SECaaS performances. Finally, the preliminary findings concluded that SECaaS is a promising solution and more thorough study is needed to further understand the benefits of SECaaS.

Keywords:

SECaaS

Meta-Heuristic Algorithms with Task Scheduling Problem in Cloud Computing Environment

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Abstract:

In recent years, there has a rise in the adoption of cloud computing, which enables users to access computational resources as remote services over the Internet. One of the trickiest issues about cloud computing is figuring out how efficiently, reliably, and securely map jobs which known as task scheduling. The effective performance of task scheduling is one of the most significant research issues in cloud computing. Numerous meta-heuristic cloud task scheduling systems, such as those based on Ant Colony Optimization, Particle Swarm Optimization, Harris Hawks and Genetic algorithms, have been explored and shown promising result in an acceptable length of time. In this paper, we presented various meta-heuristic approaches that proved to be the best technique for the task scheduling problem and discussed their limitation. Furthermore, we discussed some opportunities to produce hybrid methods.

Keywords:

Task Scheduling, Heuristic Algorithms, Meta-Heuristic, Task Scheduling in Cloud Computing

Depression Analysis Using Machine Learning and Bert Transformer

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Abstract:

Cyber-harassment bullying's and threats are a major cause of outrage on social media. The consequences which follow the trial of online harsh bullying dampen the freedom of individual thoughts. In this work, three of the most suitable classifier models are considered to evaluate the performance metrics. The computation was carried out on depression datasets which includes Twitter posts to get several important insights about online harassment. Exploratory data analysis is conducted on the data to provide extensive understanding with the machine learning classifiers. The obtained data is then computed with BERT Transformer and is analysed, to know and predict if the data falls under the category of depressed data. The results demonstrate that the proposed system outperforms existing contemporary models. This work strives to analyse and enhance the well being of the mentally troubled community.

Keywords:

Cyber-Bullying, Depression detection, Classification, Exploratory Data Analysis, Naïve Bayes, Support Vector Machine

The Use of Infographic Illustrated Book to Preserve and Educate Elementary Students about Traditional Betawi Games

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Abstract:

Indonesia has a diverse culture; each region has its own distinctive traditional game. In Jakarta, traditional games are mostly inherent in Betawi culture. Not only do traditional Betawi games have implicit cultural values to preserve, but playing the game can also benefit children in training their soft skills in real life. However, those games' popularity among the younger generation has decreased significantly because adults tend to no longer share traditional games but share online games instead. It results unavoidable extinction of traditional games. This research adopted Design Thinking method by IDEO and Stanford d. School: Empathize, Interpretation, Ideation, Experimentation, and Test. As a result, an infographic-influenced illustrated design book for elementary students was created. The infographic method gives an overview of the required equipment and step-by-step how to play the game with brief narration. A heavily illustrated design style suits elementary students' interest and showcases the game situation in a unique scene by implementing a Betawi color scheme. Positive feedback from the target market was received during the testing process. Thus, the book has proven to spark elementary students' interest in learning traditional Betawi games and playing the game. Therefore, the preservation effort of traditional Betawi games is achieved.

Keywords:

Infographic, Illustration, Design Thinking, Preservation, Education

Deep Learning Model Used in Freshness Detection of Milk ish (Chanos Chanos)

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Iloilo State College of Fisheries-Barotac Nuevo Campus, Philippines

Abstract:

Milkfish (Chanos chanos) is the most consumed fish in a market today. It is important to preserved the freshness in order to maintain the quality and nutrients of it. Preservation using ice is the most common way used by the fish vendor or even a consumer. Freshness can be described by some objective sensory, biochemical and physical parameters. Most of these methods are still in the stage of laboratory experiment and need for further improvements and exploration researches for practical applications. In present scenario image processing techniques was used. It is automatic, efficient, and non-destructive method for segmentation of tissues and monitoring the freshness of the fish. This study, generally aimed to detect milkfish (chanos chanos) freshness into fresh and not fresh based on Trained Cascade Model and Coiflet Wavelet Filter and Convolutional Neural Netwrok. The eyes, gills, and body tissues of milkfish (chanos chanos) are segmented using clustering based method and its feature are strategically extracted in the wavelet transformation domain using Coiflet wavelet filter. Six scaling was used and wavelet function coefficients so improved in pixel averaging and differencing lead to a smoother wavelet and increased capability in several image- processing techniques. The researcher choose VGG-16 because of its better performance on image detection. It has a total of five blocks of convolution and pooling layers and a block of dense layers. There are a total of 13 convolution layers that have 3*3 kernels and five 2*2 max-pooling layers. The study showed the accuracy results was 98%. Generally, study showed that the method used had improved results in freshness detection.

Keywords:

Confusion Matrix, Coiflet Wavelet Transform, Fish Freshness, Region of Interest, Convolutional Neural Network

Improving Student Achievement of the Mandarin Department of Surabaya State University through Coaching and Mentoring Methods

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Abstract:

This study aims to determine the influence of Coaching and Mentoring Methods on improving student achievement in the Mandarin Department. With a good quality of education, is expected to be able to produce optimal achievements in students. From the results of the observations made, it was found that the low achievements produced by students of the Mandarin Department State University of Surabaya, both academic and non-academic. The low achievement of students is influenced by various aspects, both internal and external. The coaching and Mentoring method is one of the methods that can help optimize student achievement according to their respective interests and talents. In this study, the approach used was Class Action Research, this study also through several procedures, including planning, implementing actions, observation, monitoring, analysis, and reflection. The subjects of this study are students of the Mandarin Department who are grouped in Student Activity Groups whose groupings are based on their respective interests and talents. As long as the application of research is found, coaching and mentoring methods can increase student activity and creativity, so that the resulting academic and non-academic achievements have increased significantly compared to previous years.

Keywords:

Improvement, Achievement, Mentoring, Coaching, Mandarin Student

Design, Fabrication and Optimization of an Indigenous Automated Chapatti Maker

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Abstract:

Chapatti is the basic need of Asian countries and a major product of wheat and due to advancements in every field of life, food production is also shifting towards automation. This study was conducted for the development of the chapatti making process by using an automatic chapatti maker, especially for hotels and public mess. The new compatible, low cost, hygiene, easy to operate machine was fabricated and optimized for chapatti baking conditions. The fabricated machine was optimized to produce 600 chapattis per hour. The effect of dough sheet thickness (1.5-3 mm), baking temperatures (180- 240 0C), baking time (60-150 sec), puffing temperature (290-320 0C) and puffing time (15-30 Sec) was evaluated on the overall quality of chapatti. The baking temperature and time show a significant effect ($\alpha \leq 0.05$) on the moisture content of chapatti while the puffing conditions also show a significant effect on the puffing height. The machine was optimized for best results at 2.5 mm thickness of chapatti baked at 200 0C for 120 Sec (Side1for 40 sec and side 2 for 80 sec), puffed at 310 0C for 25 seconds. The developed machine was fabricated with food-grade materials; hence it can be a good alternative to produce hygiene and high-quality chapatti on a large scale.

Keywords:

Automation, Chapatti Maker, Wheat, Hygiene Production, Baking, Puffing Height

Developing Factors for Composing Industrial Estate Readiness Model using System Dynamics Approach

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Abstract:

Industrial estates are areas where manufacturing industry activities are concentrated and are designed to provide more benefits to the industries within them. Industrial estates in Indonesia were built on the initiative of the government and private parties with specific criteria under applicable regulations. However, 43% of the existing industrial estate currently has a low occupancy rate. This shows that industrial estates are immature, and there is no evaluation of the readiness of industrial estates comprehensively covers all aspects. The readiness of industrial estates is currently limited to infrastructure and land availability, administrative completeness, and business feasibility. This study aims to develop the factors composing an industrial estate readiness model with a system dynamics approach so that it can provide an overview of phenomena that occur in industrial estates in Indonesia. From the close loop diagram (CLD) results, the factors that form the readiness of the industrial estate can be captured. These factors can be further developed into dimensions for measuring the readiness of industrial estates in the era of Industry 4.0, such as supply chain, location, regulation, academic, market, and industrial institutional. This study is expected to be a valuable model for the development of industrial estate readiness from all aspects so that it can provide recommendations to policymakers.

Keywords:

Indonesia, Industrial Estate, Industry 4.0, Modeling, Readiness, System Dynamics

The Casting of Glycerol, Carboxymethyl Cellulose, and Jicama (*Pachyrhizus erosus (L.) Urban*) Starch for Edible Film

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Abstract:

Producing films from pristine Jicama (Pachyrhizus erosus (L.) urban) starch will face difficulties because starch in general is brittle and uneasy to handle. Applying biopolymer in the film formula was expected to modify the starch by chemically synthesized. This work aimed to study the effect of casting carboxymethyl cellulose (CMC), glycerol, and jicama starch-based composite on the mechanical properties, water vapor transmission rate (WVTR), thickness, absorption, total plate count (TPC), and organoleptic of the edible film. From the research work, it was found that water absorption can be suppressed by the glycerol addition (2.49 %), where glycerol does not rule out the film thickness. The synergetic with CMC has successfully thinned the films (0.00062 m), and the high concentration of glycerol to CMC does not necessarily lead to an elasticity if made equal where it was found higher. The red ginger (Zingiber officinale) extract was solely added proportionally to the increase of glycerol for the inhibition of microbial growth purposes.

Keywords:

Carboxymethyl Cellulose, Edible Film, Ginger Extract, Glycerol, Jicama Starch

Joystick Controlled Autonomous Robotic Arm using Inverse Kinematics with Object Detection

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Abstract:

In 2019, the Novel Coronavirus Disease (COVID-19) was categorized as a pandemic. This disease can be transmitted via droplets on items or surfaces within several hours. Therefore, the researchers aimed to develop a wirelessly controlled robot arm and platform capable of picking up objects detected via object detection. Robot arm movements are done via the use of inverse kinematics. Meanwhile, a custom object detection model that can detect objects of interest will be trained and implemented in this project. To achieve this, the researchers utilize various open-source libraries, microcontrollers, and readily available materials to construct and program the entire system. At the end of this research, the prototype could reliably detect objects of interest, along with a grab-and-dispose success rate of 88%. Instruction data can be properly sent and received, and dual webcam image transfer reaches up to 1.72 frames per second.

Keywords:

Object Detection, Inverse Kinematics, Robot Control, Wireless Communication

Supply Chain Strategy of Batik Industry in the "New Normal" Era (Case Study: Giriloyo Batik Industry Center, Indonesia)

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Abstract:

COVID-19 has negative impacts on the sustainability of the industrial sector. This is also reinforced by the survey of 30 respondents from Giriloyo batik center, which stated that the pandemic had a negative impact. There was a decrease in income of up to 85%. Because the government takes out policies that restrict the movement of people and close many public areas, it causes decrease in demand for the industries. Nowadays, people are starting to return to mobility such as visiting public spaces and shopping because of the easing of regulations in the "New Normal" era. However, there has not been a significant increase in sales at the center. Therefore, evaluation is needed to be able to improve the strategies to reach an optimal profit. One of strategies is improving supply chain management as best as possible. This study aims to identify the supply chain of Giriloyo center and its challenges, before and during the pandemic. This is to determine whether the center should change its strategy in the "New Normal" and how the strategy is proposed. The analytical technique used in this research is Before-After analysis with qualitative descriptive approach. The analysis shows that the main challenges in the supply chain network during the pandemic are poor technology adoption and conventional marketing system. Based on evaluating several aspects, the center wants to reformulate supply chain strategy in the "New Normal" era. The strategies consist of trying computerized systems, collaborating with other industries to share labor or process, and digital marketing.

Keywords:

Batik Industry, COVID-19, Supply Chain

China's Language Input System in the Digital Age Affect Children Handwriting Skill

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Abstract:

The covid 19 virus pandemic significantly impacted the world of education. Learning activities in schools and changing teaching methods to online teaching. Students learn Mandarin using an electronic communication device based on a smartphone's pinyin input method. However, typing with Pinyin impacts the ability to write Chinese characters. This research is based on 58 students who used or without pinyin input method. Based on the results of student tests, Students' ability to write Chinese characters showed a significant decrease, with a percentage of errors when using handwriting as much as 67.25% (38 out of 58 students), with presentations of errors in the form of 1. errors in Chinese characters similarity 47.44% (a. word formation similarities 5%, e.g., 很&和(left and right structural similarities); b. character component similarities 15.25% eg.海&没; c. single letter similarities 27.11%, e.g., 夭&天); 2. 25% sound equation error. E.g., 是&视=shì; 3. formation of new Chinese characters 27%. However, if using the pinyin input system, the percentage of errors is only 25.86% (15 students/58 students), with errors dominated by word selection errors that have the same Pinyin as much as 60%, e.g.,八花&八华 (bahua) and errors in the vowels that form mandarin characters by 40%, e.g.,设shè &是shì. With this research, we can conclude that pinyin input makes students less motivated to write Chinese characters, which indirectly significantly affects the student's handwriting skills.

Keywords:

Learning Method, Chinese Characters, Handwriting Skill, Memory

The Influence of The Language Environment on The Mandarin Language Skills of Indonesian Students in Taiwan

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Abstract:

The environment holds an important influence on language fluency. In this study, the paper researched the frequency of use of Mandarin by Indonesian students studying at NTOU (National Taiwan Ocean University) in the learning environment and community environment. The purpose of this study was to determine the frequency of Indonesian students' use of Mandarin on the influence of the everyday environment on their fluency in speaking Mandarin. In this study, researchers used quantitative methods and distributed questionnaires in the Likert scale format to research targets. The research used two theoretical foundations: the acquisition of a second language and the study abroad environment, which are linked to the results obtained. From the results, 62.9% of respondents thought that the learning environment could influence fluency in speaking Mandarin. In comparison, 51.4% of respondents thought that the social environment affected fluency in speaking Mandarin. Based on the average results obtained, 39% of respondents did not practice using Mandarin in the classroom environment when studying abroad. In the university environment, 40.5% of respondents chose rarely, and the last was the community environment, where 37.9% rarely practiced the use of Mandarin in the environment. In this case, The research can conclude that the frequency of respondents' use of Mandarin is relatively low. Students are expected to have a strategy for learning Mandarin while studying abroad and make the best use of opportunities to improve their Mandarin skills.

Keywords:

Second Language Acquisition, Learning Environment, Second Language, Environmental Influence, Fluency in Speaking

Decomposition Model of Poverty Formers of Causality Effects in East Nusa Tenggara, Indonesia

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Abstract:

Poverty in many developing countries occupies rural areas with principal activities in the agricultural sector. However, agricultural land is decreasing because it is used for industrial and service activities. This research focuses on East Nusa Tenggara Province, which has a high poverty rate. Using path analysis of the decomposition model, the variables of agricultural land conversion and village funds do not significantly affect poverty, even though the directions follow the theory. Meanwhile, economic growth and dependency ratios significantly affect poverty, which is mediated by the income of informal workers.

Keywords:

Poverty, Decomposition Model, Path Analysis

Albumin Levels, Iron and Calcium Ion Levels of Stunted and Non-stunted Toddlers in Pohuwato District, Gorontalo, Indonesia

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Abstract:

Stunting is a growth disorder in children's development of height that occurs due to chronic nutritional disorders and repeated infections, which is characterized by nutritional status of length or height per age. This study aims to analyze the levels of serum albumin, serum iron and ionic calcium in stunted and non-stunted toddlers in Pohuwato District, Gorontalo Province. The sample consisted of 23 stunted toddlers aged 12-49 months and 23 non-stunted toddlers aged 12-49 months in Pohuwato District, Gorontalo Province. The method used is cross-sectional. The data analyzed were serum albumin, serum iron, and calcium ion levels. Data analysis was performed using an unpaired t-test. The results showed that the average albumin level for stunted toddlers was 4.76 g/dL and 4.66 g/dL for non-stunted toddlers. The average iron level for boys is below normal for both stunting (47.17 ug/dL) and non-stunting (33.33 ug/dL), and for girls under five is also below normal for both stunting (33.5 ug/dL). and non-stunted (44 ug/dL). The average calcium ion level was above normal for both stunted (1.4 mmol/L) and non-stunted toddlers (1.41 mmol/L). The conclusion is the nutritional status of

stunting children based on biochemistry shows that albumin levels are within normal limits, serum iron levels are within normal limits and ionic calcium levels are above normal limits.

Keywords:

Albumin Levels, Iron And Calcium, Toddlers, Pohuwato District, Gorontalo, Indonesia

Analysis of Geophysical Representation of Submerged Sub Surface of Historical Port Poompuhar - A Case Study

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Abstract:

Ancient ports provide insight on port strategic sites, sea trade, routes, material exchange, and current socioeconomic conditions. Many similar port towns that were along the coast disappeared or were submerged in the sea, most probably as a result of coastal erosion, sea level fluctuations, neo-tectonic activity, and other factors. The present paper deals with offshore exploration of Poompuhar, which was the famous port city of early chola periods of Tamilnadu. The report of bathymetric and sub bottom profile data is got from NIOT, Chennai and is interpreted using ArcGIS software. The main objective of marine archaeological expedition was to understand the geological features and locate submerged structures of Poompuhar. The available evidence confirms the submergence of a vast region or structures. The information gathered at poompuhar sites supports the literary evidence proving their existence as ports. The principal cause of these port cities' submergence was shoreline alterations caused by coastal erosion.

Keywords:

Geophysical, Sub Surface, Historical Port Poompuhar

A Survey of CAD Systems for Breast Cancer Detection

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Abstract:

Computer Aided Diagnosis has been the most critical and vital approach concerning the medical domain in recent times. Also, with the trend of telemedicine in place, the reliability and efficiency of CAD systems have become the need of the hour. Dedicated research concerning CAD systems for the detection of breast cancer is being promoted globally. However, given the vast range of imaging modalities and the availability of diverse datasets concerning the aforementioned domain, choosing the most efficient and optimum implementation methodology becomes a challenge. The proposed survey paper, therefore, aims to provide a comprehensive overview of all the existing imaging modalities and their corresponding datasets. Apart from this, some notable works concerning each modality representing both the Machine Learning and Deep Learning domains would also be presented in order to give a head start for the upcoming novel research. The proposed work would shed light on all the possible categories of classifications that can be performed concerning the domain of breast cancer. We finally conclude by pointing out new possible research gaps thereby opening up avenues for future upcoming research.

Keywords:

Benign, Malignant, In-situ, Invasive Ductal Carcinoma, CAD

Philosophy and Practice of Mozi's Educational Thought in Globalization

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Abstract:

The article entitled "Equality in Education: Philosophy and Practice of Mozi's Educational Thought in Globalization" has three objectives: 1) to study the meaning of equality in education 2) to study Mozi's Educational Thought 3) to promote philosophy and practice of Mozi for equality in education in globalization. According to the study, it was found that Mozi is one of China's greatest sages who can let us see the future of the world. Mozi values people education, livelihood, and advocate harmony. Mohism is an important part of China's excellent traditional culture and contains the great wisdom of the survival of the Chinese nation. Mozi's educational thought has influenced the development of the world. He is the initiator of "obligation, occupation, lifelong, innovation, science and technology. The most important has promoted equality and moral in education in China and for the world today. Although Mozi has been away from us for more than 2,400 years, his thoughts and contributions always be the education, work and life goal that all countries in the world have been striving for. His disciples are righteous, virtuous knowledgeable, and wise. They were great successful role models in Chinese history. Therefore, Mozi's educational thought is the great philosophy and practice that should be promoted for equality in education in globalization.

Keywords:

Livelihood, Righteous, Virtuous, Globalization, Equality in Education, Mozi's Educational Thought

Implementation of VLSI Architecture for Hardware Security using Cryptograpic Algorithms

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Abstract:

Hardware security recreates an important part in protecting the devices and data from the stealing. Hardware-based security solutions deliver better security than software security, which is essential in today's handheld devices. However, hardware trustworthiness has become, In this work, the widely used Public Key Cryptography (PKC) algorithm such as RSA and ECC have been studied and implemented to emphasise their importance in data security. The VLSI architecture for the Fast Modular Exponentiation Algorithm (FMEA) and implementation in the RSA algorithm is presented. Implementation of ECC over GF(p) with underlying mathematical fields is also discussed. The architecture is described using Verilog HDL (Hardware Description Language), synthesised and verified in ZED (Zynq Evaluation and Development) Board (XC7Z020CLG484-1).

Keywords:

Public-key Cryptosystem PKC, Hardware Security, RSA, ECC, FPGA

Automated Response Algorithm on Prior Knowledge-based Email Communication in Scrum Environment

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Abstract:

Email is one of the most used communication tools in the world and has also become the main business productivity application for most companies and individuals. Many people who relate to others use email as the main channel through which work and related information can be distributed. Interaction via email is usually carried out in product or software development. In this development, there are methods that are usually used such as Agile Development Methods. The agile method has one well-known model, Scrum, which will facilitate interaction between the scrum team and the client regarding needs that can change at any time. Scrum implementation is usually done quickly, so it requires a fast response, including when the team does it via email. Currently, email already has a feature, namely to activate automatic responses. This feature is an automatic reply that will be sent as a response to the email received when the email user cannot reply. However, this feature still uses the default message to send replies to new emails. So in this study, the researcher proposes a technical method to create auto-response based on previous knowledge. We build a retrieval algorithm that finds similar cases, using text processing and sentiment analysis. This study was designed using Robotic Process Automation which can automate rule-based processes involving routine tasks, structured data, and deterministic results. This automatic response system can improve the Scrum Team's communication performance.

Keywords:

Auto-Response, Email, Robotic Process Automation, Scrum

The Lean Manufacturing According to Several Actors

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Abstract:

The Lean Manufacturing is a discipline that has been very successful in mass industrial units, it is increasingly used and applied in most industrial sites.

The craft production is the basis of a mass production supported by Lean tools. Toyota, Taylor and Ford have been able to develop their production system thanks to the craft and to the all traditional techniques and means.

The main goal of the Lean Manufacturing approach is to eliminate waste in order to seek perfection and continuously improve the productivity and performance of a system.

Keywords:

Craft, Production, Lean Manufacturing, Authors, Performance

Comparison of Models for the Analysis and Classification of Anxiety Cases Extracted from Reddit in Spanish

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Abstract:

Social networks have become very powerful technological tools, being probably, the substitute for personal diaries. Since these people usually publish their entire personal life there. They have so much personal information, so it is not surprising that the writer´s emotional state and mood can be interpreted. In this paper we analyze and compare a group of proposed machine learning models that will be useful to design and implement an intelligent system with the ability to analyze, discern and classify cases of anxiety through publications published on the social network “Reddit”. The SVC model stands out for demonstrating great performance in the classification tasks. With a high accuracy of 85.67% and a precision of 87.6% . While the Linear SVC model will stand out as the most balanced model between performances and training speed. With a training time of 4.62 seconds, an accuracy of 84.54% and a precision of 85%.

Keywords:

Social network, Anxiety, Reddit, NLP, Machine Learning, Spanish

Study and Analysis of 4G 5G Spectrum Mobile Signals on Chicken Eggs Embryo Development

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Abstract:

Day by day the number of Radio Frequency Transmitting User Devices (RUD), mobile or static, are getting increase in and around living objects (LO). The near exposure of these Radio Frequencies Radiations to a specific LO, at a given place, under given environmental conditions, at unscheduled time of intervals, may affect its growth and survival, positively or negatively, as compared to the growth and survival of LO without presence or far presence of these RUDs is subject of study. The impact of effect will depend on the surface of exposure, field strength of signal at the surface of exposure, both these factors depend on Frequency, distance and radius of first Fresnel zone. Considering commonness of 800/1700/1800 MHz frequency band for 4 G & 5G communication system, the impact of RUD radiations in this band have been planned, the uplink and down link RF radiation pattern studied and accordingly test set-up has been designed and experiment conducted on fertilized Chicken eggs and observed the impact during its embryonic development period of 21 days in an incubator by giving Radio Frequency Radiation exposure at regular interval. The embryonic growth has been observed at a pre-defined interval and it is observed that the growth is significantly impacted adversely……

Keywords:

4G- 5G Smart Mobiles, Chicken embryo, Living Objects, Mobile RF Radiations

Design and Implementation of Two-Factor Authentication (2FA) using Facial Recognition and Password/Code for Social Media

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Abstract:

The social media has become a platform for individuals, groups of people and companies to interact with one another and also as sources of relevant information. It has truly aided interaction between individual and business services made through social networks. Some commonly used social media applications are Facebook, WhatsApp, Instagram, Snapchat, Twitter, and WeChat etc. The challenge with the social media is the possibility of people using other people's password to gain access to their account, however, the aim of this research is to design and implement a two-factor authentication using password and facial recognition system to aid security on this application. Two factor authentication system is a computer-based authentication which uses a two-way verification mechanism for the person who wants to gain access to his/her personal account. The two factors which is used in this research are security code or password which is the first factor authentication and facial recognition system which is the second factor authentication. This research focuses on how the face recognition is use to identify the owner of the account through web cam before given access to the user. The methodology used was Agile and the application was developed with PHP, CSS, BOOTSTRAP AND HTML technologies for the frontend and Django, MYSQL frame work for the backend.

Keywords:

Authentication, Facial Recognition System, Automated Teller Machines, Social Media Network, Two-Factor Authentication, Point Of Sale And Media Platform

Apply Analytic Hierarchy Process for Formulation and Prioritization of Trackability and Traceability Technology in Thailand's Election Supply Chain

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Abstract:

The tracking and tracing in the supply chains can enhance supply chain visibility and productivity. This study will focus on Thailand's Election Supply Chain in tracking and tracing of the ballot papers to improve the transparency and consistency of the process. By an intensive literature review, there is four technology which use in this field: Radio Frequency Identification (RFID), Internet of Things (IoT), Global Positioning System (GPS), and Blockchain. The six important of choosing technology factors which include transparency and accuracy, reliability, the cost of technology, real-time data, standardization, and security. The Analytic Hierarchy Process (AHP) is applied to evaluate those. As a result, transparency and accuracy are the most important factor in the expert's decision. In terms of technology shows that Radio Frequency Identification (RFID) technology has a high weight with 0.47 of the important point. While Global Positioning System (GPS), Internet of Things (IoT), and Blockchain have 0.23, 0.15, and 0.15 respectively.

Keywords:

Election, Thailand, AHP, Supply Chain

Students' Mental Health amidst of COVID-19 Pandemic at a State University in Isabela Province, Philippines

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Abstract:

Introduction: Psychological, social, and emotional health are aspects of mental health. It influences thoughts, emotions, and behaviors. They also influence how people respond to pressure, interact with others, and make decisions. During the COVID-19 pandemic, mental health was affected by a number of factors, such as fear and anxiety. This study assessed the mental health of college students by determining their profiles and identifying various stressors, coping mechanisms, and barriers to mental health due to the pandemic. In addition, the levels of depression and anxiety were measured to determine whether there was a link between depression and anxiety and the respondents' age and gender. This research bridges the gap between students, parents, and institutions by helping respondents comprehend and become more aware of mental and psychological health concerns.

University students were given an online descriptive survey using semi-structured, multiple-choice questions. The PHQ-9 and GAD-7 were used to assess depression and anxiety symptoms. Frequency distribution was used to evaluate the respondents' profiles, COVID-19 stressors, coping strategies, and mental health impediments. A Chi-Square test was used to determine the link between students' age and gender and their levels of depression and anxiety. The results showed that, during the COVID-19 quarantine, most students experienced mild depression and anxiety. Women aged 19 to 20 accounted for 66.7% of those who reported feeling anxious or depressed, indicating a link between gender and anxiety. Among the barriers to mental healthcare, 39.10% (n = 282) had financial difficulties because most families (n = 540, 74.79%) earned only P 0.00 to P 5,000.00. The other top stressors were COVID-19 (n = 502, 69.5%), a lack of counseling services (n = 332, 46%), and a lack of social interaction (n = 325, 45%). Physical exercise, diet maintenance, and self-care were the most common coping mechanisms (n = 337, 46.7%).

Our findings suggest that funding for mental health services should be increased so that more counseling services and new approaches and interventions can be made to improve student services in academic institutions across the Philippines. In addition, future researchers may use mixed research methods to examine the factors that affect students' mental health and well-being.

Keywords:

COVID-19 Pandemic, Mental Health, Stressors, Coping Mechanism, Philippines

How Indonesia Stock Market Response to Covid-19?

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Abstract:

The Covid-19 pandemic has economically impact on almost all countries, including Indonesia. This condition was caused by weakening demand due to reduced purchasing ability and decreased supply due to social restrictions. This study analyzes 27 firms of the LQ45 Indexed on the Indonesia Stock Exchange due to the Covid-19 first case announcement and Large-Scale Social Restrictions (LSSR). The selection is firms fixed on the LQ45 Index in 2019-2022. This study uses the event study methodology to analyze the impact of Covid-19 on stock returns. Four events with five windows are analyzed to find comparisons between situations. The analysis used by this research is descriptive statistics, Paired t-test or Wilcoxon sign-rank test for the Average Abnormal Return (AAR) and the Cumulative Abnormal Return (CAR), and graph of the Cumulative Average Abnormal Return (CAAR). The first results reveal a decrease in share prices before and after Indonesia's Covid-19 first case announcement. Evidence from the CAAR graph shows an adverse reaction or a decrease in stock prices at this event, even though the statistical data in several windows show different results due to decreases at different window points. Second, the Strict LSSR event showed a positive reaction to the CAAR graph and was reinforced by the majority of different test results, which gave a significant value of <0.05 for all observations. The CAAR graph shows an anomalous event known as the Pandemic Darling. Finally, the third and the fourth event, show no market reaction. The market may have shown saturation or believed that the pandemic was no longer having any effect.

Keywords:

Event Study, Stock Index, Covid-19 Effect, Pandemic Darling

Development of a Web-based Decision Support System for Sales Performance Monitoring and Trend Analysis

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Abstract:

The study aimed to develop a web-based decision support system for sales monitoring and trend analysis of a restaurant in the Philippines. It was developed using Hypertext Pre-processor (PHP), Hyper Text Markup Language (HTML), Java Scripting, Bootstrap and Sublime editor for the designing and MySQL for the database. Decision Tree Algorithm using Python was used to analyze the customer's preferences and sales trend forecast. Users' acceptance and Information System impact was evaluated based on a five-point Likert scale by the end-users. The result exhibited that the system's individual impact, organizational impact, system quality, and information quality met the needs of each users as it was able to perform tasks and input data from the individual users; capable of increasing performance and productivity by streamlining processes through converting manual to digitized transactions, and eliminate redundant processes as it produce reports from sales, customer orders, and inventory of products which improves performance and cost-effectiveness; and provide data accurately with forecasting and predictive analysis and can run both on web and mobile-based applications. Nonetheless, the system should be used as it met the needs of each users and provide the business a competitive advantage.

Keywords:

Web-Based Decision Support System, Sales Performance, Monitoring, Trend Analysis

Constructed Wetland Wastewater Treatment System in Landscape Architecture

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Abstract:

Nowadays, the global warming from the environmental crisis was a main international issue to be solved desperately. It dramatically caused the climate change in several areas. In this reason, the environmental conservation was sustainably necessary to the community developments especially the pollution managements of the communities. According that the constructed wetland wastewater treatment system in landscape architecture was a guideline for the wastewater treatment before discharging to the environment by natural method and enhanced the aesthetic value of living with nature by green landscape architectural design. The model of the constructed wetland wastewater treatment system was applicable to various landscape architectures with the environmental conditions. Therefore, the research objectives were a model design of green cultural landscape in the sustainable environmental conservation, the landscape architectural design for flood resilience and the sustainable cultural promotion in the local communities. To the research methods, they were the study of design criteria for the constructed wetland wastewater treatment system, applying to the study's area by landscape architectural design and the research conclusion about a model design of the constructed wetland wastewater treatment system with flood resilience from a university-based case study in University of Phayao. Since the university's location was among the mountain and full of green landscapes. The university areas were perfect to designs of the constructed wetland wastewater treatment system on the slopes and the plains. Furthermore, the university's image was a community educational institution with the practical academic services to the local communities and promoted the environmental conservation to the new generations.

Keywords:

Landscape Architecture, Wetland, Wastewater Treatment System, Environmental Conservation, Site Planning

Applying Hand Gesture Recognition for Learning Sign Words Using Mediapipe by Extracting Keypoints and Distance Based Features from Hand Landmark Estimation

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Abstract:

The community of the hard of hearing and nearly deaf uses sign language to communicate and interact with the outside world. Recognition of sign language has long been a significant area of study. In the past, sensor-based methods have outperformed vision-based methods in terms of accuracy. Despite the accuracy drop, research has been done here also due to the cost-adequacy of vision-based methods. This study aims to identify fewer words using hand pictures captured by a web camera rather than just any letters or digits. The mediapipe hands method was utilized in this study to estimate hand joints or landmarks from RGB images of hands. Features were generated by means of the expected coordinates of the joints acquired for classification, i.e. the distances amongst the points. Support vector machines (SVM) were used as the classifiers to categorise the characters. For recognition, our own datasets were utilized. The proposed approach for sign language recognition is economically feasible, computationally simple, and doesn't call for any specialized equipments. Additionally, we assessed our findings using a variety of scaling factors, including the distances from positions 0 to 17, 5 to 17, and 0 to 12. But compared to the other alternatives, the palm size distance (o-9) worked better.

Keywords:

Sign Language Recognition, Mediapipe, Key Landmarks Extraction, Hand Gesture

Financial Literacy and Culture on Entrepreneurial Performance through Financial Behavior and Investment Decisions (Case of Micro and Small Enterprises in East Kalimantan)

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Abstract:

The Micro and Small Enterprises sector has the crucial role to increase economic growth in emerging countries. This research focuses on East Kalimantan Province, who managed the Micro and Small Enterprises. Using structural equation modeling (SEM) of the decomposition model, the variable of financial literacy, culture and finance behavior funds significantly affect entrepreneurial performance. Investment decisions do not significantly affect entrepreneurial performance, even though the directions follow the theory. Meanwhile, financial literacy and culture funds significantly affect financial behavior and investment decisions, which is mediated by entrepreneurial performance.

Keywords:

Financial Literacy, Culture, Entrepreneurial Performance, Financial Behavior, Investment Decisions

Towards Sustainable Customer Experience Management: A Way Forward

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Abstract:

Despite massive scholarly attention on customer experience management, its conceptualization through sustainable marketing strategies and consumers' interest towards sustainable service consumption remains tenuous. The present study aims to develop an integrated framework for developing a sustainable customer experience in retail management. By using qualitative methods, the present study has conducted 12 interviews from non-fuel retail customers. The data was analysed using thematic analysis. The findings have revealed interesting insights where service firms should re-design their traditional marketing strategies to create proper awareness about sustainable products program, their benefits through promotional campaigns and their pricing which shall gauge customers attention to use the sustainable products. thus, building a unique and favourable experience after using those services. The present study has provided a new stream of direction for practitioners that despite launching the sustainable products in the markets, the customers are not adapting them according to firms' expectation. A proper knowledge and awareness in this regard is necessary. The integrated framework will help the managers to re-design their marketing activities for optimal sustainable customer experience creation. Moreover, future research studies should empirically investigate this framework for better generalizability of the proposed phenomena. The present study is among the few to conceptualize an integrated phenomena of sustainable customer experience in retail setting through sustainable marketing strategies and consumer interest towards sustainable service consumption by taking a case in point of non-fuel retail stores.

Keywords:

Sustainable Customer Experience; Sustainable Marketing Strategies; Experience-Dominant Logic

Minimize Seepage Loss through Canal Slope and Bed by Reducing Permeability of Soil with Lime Admixture

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Abstract:

As per IS 10430 (2000): Criteria for Design of Lined Canals and Guidance for Selection of Type of Lining [WRD 13: Canals and Cross Drainage Works], canal reaches of sufficient length having permeability of $1x10^{-6}$ cm/s or less need not be lined when the velocity in the canal does not exceed the permissible velocity. Co-efficient of permeability $1x10^{-6}$ cm/sec is optimum value above which lining of canal is required. Canal lining is very costly activity. Admixture in embankment soil will decrease Co-efficient of permeability and as per code, lining is not required. Lime is very cheap and easily and widely available admixture. Lime is also work as a binding material. Experimentally, on the basis of primary parameter, quantity of lime may be obtained to reduce permeability which will be use to avoid lining in canal .Sample obtained from three places of Indira canal, 3.60% optimum quantity of lime was obtained and 0.7×10^{-6} cm/sec coefficient of permeability was evaluated below which lining of canal is not required.

Keywords:

Seepage Loss, Canal Slope, Permeability of Soil, Admixture, Soil

Numerical Investigation on Buckling Behavior of Cold-Formed Steel Built-up Box Slender Columns

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Abstract:

In construction industry, builders and engineers are more interested in application cold-formed steel (CFS) sections not only as the non-structural components but also the structural members of the commercial and residential buildings. To meet with this interest, examining their behaviors in all approaches become significant for researchers. As the structural members, the literatures endorsed that built-up CFS sections have higher strength than single detached sections. Through recent investigations, moreover, the researchers were more captivated on bending and flexural behaviors of built-up beams rather than columns. Very few researches for built-up columns with weld connections were done by FE software ABAQUS. The objective of this paper is to analyze the buckling behaviors of CFS built-up box slender columns by means of FE software ANSYS 2020 R1 based on the recent experimental models and compares the outputs for design optimization. Face-to-face built-up box slender columns were connected with fillet weld joint spacing of 500 mm and analyzed for Eigenvalue buckling loads. Numerical results by ANSYS 2020 R1 are within the range of allowable compressive loads and global buckling governs in this study. It is also recommended that numerical study should be done for built-up box slender columns by means of screw connection and compares the results with experiments.

Keywords:

Numerical Investigation, Built-Up Box Slender Columns, Cold-Formed Steel, Eigenvalue Buckling, Fillet-Welded Connections

Attendance System Based on Face Recognition

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Abstract:

The face is used as an identity to identify a person. So, we have come up with an automated student attendance system based on face identification. Face recognition system is very useful in almost all sort real life applications especially in security control systems. The airport and other important protection systems uses face recognition to identify suspects and FBI (Federal Bureau of Investigation) uses face for criminal identification and investigations.

An Attendance management is a necessary for marking attendance in any environment which is essential for so many people. In this presented method, an automated attendance marking process will identify the face of the person and the features are extracted using History of Oriented Gradients(HOG). Support Vector Machine (SVM) is used for clustering the extracted features by comparing with the person's facial properties stored in the database and enters it as present if he is an authorized one(an enrolled into the system) . An automatic mail is sent to the person's registered mail id reporting attendance status. Thus, this method helps in saving time when attendance is taken manually and also no proxy can be given as well. This method of recording the attendance using face recognition automates the records for further reference.

Keywords:

Attendance Management System, Face Recognition, HOG. SVM

The Implementation Level of Financial Strategy among Cooperatives in Ifugao Province, Philippines

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Abstract:

This study determined the implementation level of financial strategy among cooperatives in the Ifugao Province, Philippines. It employed a survey questionnaire designed by the researcher to befit its research context, and further utilized interview to afford supplements to the responses. It determined that some aspects of financial strategy were fully implemented. Specifically, the cooperatives anchoring their financial strategy to its vision, mission, goals and objectives is fully implemented. Moreover, the cooperatives communicating financial results and reports, performing financial planning, organizing, monitoring and evaluating, and utilizing the financial strategy to gain competitive advantages and to create shared value is fully implemented. On the other hand, some other aspects of financial strategy were substantially implemented. Such full and substantial implementation of financial strategy is attributed to the considerable and commendable financing performances of these cooperatives. However, additional efforts should be taken to address the presently and probably occurring financial issues towards the full implementation of financial strategy to its best and fullest. It recommended that the cooperatives then should consistently and continuously implement in full those aspects of financial strategy being fully implemented and should insistently and influentially implement to full those aspects being substantially implemented by strengthening their strengths, weakening their weaknesses, opportunitizing their opportunities, and threatening their threats. It also recommended that these cooperatives should have clear and comprehensive planning, monitoring and evaluating mechanisms so that all financial resources are efficiently and effectively acquired, applied, and audited aimed to avoid financial abuse and misuse. They should also have sustainable financial sufficiency to maintain proficient and productive movements of finances without financial shortages and financial idleness. They should also should collaborate with their stakeholders, namely the customers, creditors, government, members, suppliers and the community, to sustain a steady stream of provisions and patronages.

Keywords:

Implementation Level, Financial Strategy, Cooperatives, Ifugao Province, Philippines

Development of a Mobile Based Game with Image Recognition for Preschoolers

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Abstract:

Learning is not only confined in the classroom but also with the use of technology through the development of mobile games and learning management systems. Pre-schoolers are very active in the use of the technology by using their mobile devices to play games which are often not designed for their age and not educational. Preschoolers prefer fun and engaging learning. This study aims to develop a mobile application which aids in the learning experience of pre-school students by providing an interactive game with the inclusion of image recognition. The use of image recognition helped the preschoolers learn and identify objects. This study was beneficial to preschoolers as this helped them in understanding the lessons in a fun and interactive manner. This study uses a developmental research method with the ADDIE model being utilized in the development of the mobile application. The model for the image recognition part of the application was developed using Teachable Machine and a TensorFlow lite model was deployed in the application. The usability of the application was determined using the USE tool. The developed mobile based game presents a unique learning experience to preschoolers as it provides learning in a fun way. The developed application is suitable for preschoolers.

Keywords:

Googles' Teachable Machine, Image Recognition, Mobile Based Game, Preschoolers

Culture towards Taxpayer Compliance with the Theory of Planned Behavior Approach

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Abstract:

This study aims to analyze the theory of planned behavior with a cultural approach to taxpayer compliance. The cultural approach uses local culture from South Sulawesi, namely Siri Na Passe. The object of research is personal taxpayers who have businesses in South Sulawesi. This study was analyzed using Structural Equation Modeling (SEM) using a sample of 100 taxpayers in South Sulawesi. And the results of the study show that Attitude, Culture and Perceived Behavior have a positive influence on the taxpayer's intention to comply. Attitudes have a positive effect on taxpayer compliance, while culture and perceived behavior have no effect on taxpayer compliance. Intentions have an influence on taxpayer compliance. The results of this study are in line with the theory of planned behavior by Azjen (1991).

Keywords:

Attitude, Culture, Perceived Behavioral, Intention and tax compliance

CaragaITreePier: A Mobile Application for Wood Identification Using Deep Learning

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Abstract:

The wood industry is vibrant in Mindanao, and particularly in the Caraga Region. Industrial tree plantation (ITP) has become a solution to declining forest cover, as the extraction of wood from natural forests was gradually regulated until eventually banned in 2010. Identification of the wood of ITP species is a valuable process. From a traditional method of identifying wood and preventing fraud during timber trading, the authors envisioned a modern approach that is accurate and hassle-free by integrating knowledge in forestry and the advancement of technology. Therefore, CaragaITreePier-a mobile-based application that uses deep learning algorithm-was developed for the wood identification of priority ITP species in the region. With this application, ordinary people can now perform proper wood identification by simply scanning the wood using macrolens attached to a cellphone. The results of the application evaluation showed a high precision in the classification of wood samples. In terms of performance efficiency, the mobile application provided users a smooth experience in loading, predicting, and displaying information. Finally, the overall evaluation of the user respondents further confirmed that CaragaITreePier is user-friendly and a promising tool for the classification and authentication of wood species. The fundamental concept of the system is a trained artificial intelligence model with deep learning capabilities that can match human-level accuracy while using computing power for wood identification. Moreover, the advantage of the system is its portability, as CaragaITreePier can be used on mobile phones anywhere even without internet connectivity.

Keywords:

Convolutional Neural Network, Caragaitreepier, Deep-Learning, Industrial Tree Plantations, Wood Identification Application

Dielectric Metasurface for Sensitivity Enhancement of Bloch Surface Wave based Biosensor

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Abstract:

A dielectric metasurface consisting of a periodically arranged TiO_2 nanospheres is proposed as an upper layer of the one Dimensional Photonic Crystal (1D-PhC) $[TiO_2/MgF_2]_2/TiO_2/GaAs$. The biosensor is designed to sustain Bloch Surface Waves (BSWs) for p polarized incident beam at 632.8 nm using the prism coupling technique and considering a sensing medium refractive index of 1.34 RIU. The thicknesses of the terminate layers TiO_2, GaAs and the nanosphere diameter as well as the filling fraction of TiO_2 nanospheres are optimized to ensure high sensitivity of the biosensor. Optical properties of the metasurface layer is calculated within the effective medium approximation (EMA) while performances of the biosensor are calculated using the transfer matrix method. Moreover, the figures of merit (FoM) of the proposed biosensors corresponding to different filling fraction of TiO_2 nanospheres (f=0, 0.05, 0.1, 0.15) are compared.

Keywords:

Bloch Surface Wave, Prism Coupling Technique, Bruggeman Approximation, Sensitivity Enhancement

Removal of Cu and Ni from Synthetic Solution by Developed Adsorbents from Wheat and Pigeon Pea Husk

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Abstract:

The importance of removal of heavy metals like Cu and Ni from industrial wastewater has received immense attention due to increase of industrialization and heavy metals potential to harm to human health. Different conventional methods are used for removing heavy metal contamination, but these methods have several disadvantages such as high cost, accumulation of sludge and less efficiency. Adsorption process is simple, economical and effective method to remove toxic heavy metals from the industrial wastewater but conventional adsorbents are neither readily available nearby and nor economic therefore agro-based adsorbents are developed with chemical and thermal treatment. Developed adsorbent from wheat husk and pigeon pea husk are used in filter unit as filter media in combination with sand and aggregate. Activated wheat husk and pigeon pea husk adsorbents significantly removed the Cu and Ni from synthetic solution and industrial wastewater. This work studied the removal of Cu and Ni from synthetic solution and adsorption capacity of prepared adsorbents. This paper also studied the removal efficiency by varying pH and turbidity in synthetic solution. The extent of removal of heavy metals by developed agro-based adsorbents are also correlated by proximate analysis, surface area, pores, bulk density, iodine number and composition of adsorbents. Characterization of prepared adsorbents also supported that developed adsorbents have great potential to carry adsorption process.

Keywords:

Adsorption, Agro-Based Adsorbents, Heavy Metals, Proximate Analysis

Gender Stereotypes in Digital Technologies Used for Teaching and Learning in Technology Education Programs of Region 10 Northern Mindanao

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Abstract:

This study aims to identify gender stereotypes in digital technologies used for teaching and learning in technology education programs. This study incorporated descriptive analysis to identify the prevalence of gender stereotyping in digital technologies used. Inferential analysis was conducted using an independent sample t-test to know whether there is a significant difference between the responses of male and female respondents. Inclusion of both male and female faculty from selected technology education programs in both public and private Higher Education Institutions (HEIs) in region 10 were participants in the study. The result of the study revealed that faculty members in technology education programs have positive attitudes toward gender disparities in the perception of gender-stereotyped classroom practices. And participants disagreed that the government is not doing enough at the moment to create awareness about gender issues in the Philippines. However, this disparity suggests either unclear actions or programs by the government or the public's unawareness of existing measures. Nonetheless, findings show that the participants agreed with all propositions that teachers should encourage students to respect other genders. Although there are levels of gender insensitivity identified, in general, gender stereotyping is not prevalent in digital technologies used in technology education programs. These also prove that gender stereotyping in technology education programs is not highly pervasive.

Keywords:

Gender Stereotypes, Digital Technologies, Technology Education Programs

Evaluating the Virtual Local Network's Effectiveness at Enhancing the Performance of the Local Network

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Abstract:

In order to communicate, exchange information, and facilitate services, local networks are used in institutions. However, these institutions frequently experience slowness and brittleness of the local network due to a variety of factors, such as poor network structure design, increased traffic, a lack of reliability, privacy, security, etc. This is why the virtual local network is employed to address these issues, and the intention of this research paper was to highlight the significance of the virtual local network. The performance of the virtual local network was evaluated by reviewing a number of prior studies and highlighting its most salient features and services, namely security, scalability, and segmentation of the total broadcasting field into several areas where each Vlan has its own broadcasting field to cover. In order to increase the capacity and effectiveness of the local network, the recommendations to the individuals working in this field, such as network engineers and organizations used to the local network, to adopt Vlan technology.

Keywords:

Trunk, Access, LAN, VLAN, Broadcast

Assessment of ICT Utilization in Disaster Risk Reduction Management in the 4th District of Camarines Sur

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Abstract:

On a global scale, the application of information and communication technology (ICT) in disaster risk reduction management has proven to be critical for success. The purpose of this study is to determine the extent to which disaster-prone municipalities in Camarines Sur are utilizing information and communications technology (ICT) for disaster risk reduction and management (DRRM).The research was conducted in disaster-prone municipalities in Camarines Sur because of their proclivity to be impacted by natural disasters. The researcher conducted key informant interviews with the DRRM officers in local government units (LGUs) and used qualitative methods to analyze the data gathered. The findings indicated that some LGUs in Camarines Sur have adequate ICT resources for DRRM, while other LGUs do not have adequate ICT resources for DRRM, and the level of ICT application to DRRM corresponds to the availability of ICT resources in the LGUs. Moreover, it was found that there were a number of challenges that prevented the effective utilization of ICT in DRRM. The study recommends that LGUs allocate funds and resources to the improvement of ICT infrastructure and the utilization of ICT in disaster risk reduction efforts. On a continuous basis, LGUs should train their employees on the latest information and communication technologies, as well as their applications in disaster risk reduction.

Keywords:

Information and Communication Technology (ICT), Disaster Risk Reduction Management, Local Government Unit (LGU), Camarines Sur

Nature-Based Solutions for Resilient Cities: The Current Status and Debates

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Abstract:

Nature-based Solutions (NbS) are the driver for urban sustainability and are used to refer to the enhancement of the built environment through nature-based interventions with infrastructure and superstructure means so that both environment can support each other under extreme effects of climate change induced hazards. NbS are collective approaches including blue and green infrastructures, ecological engineering, ecosystem services and ecosystem-based adaptation. Various frameworks defined different key considerations for NbS in general. However, there are debates lately regarding how innovative and adaptive the solutions are, to what extent they are integrated with social values and equity, and the financial challenges they bring which underlines the disparities between the world cities. Rapid urbanization often resulted without control that made cities an environmental issue for decades. This paper focuses on the debates from different perspectives based on an up-to-date literature review and aim to frame the current status of the NbS improvements through analyzing case studies of cities.

Keywords:

NbS, Green Infrastructures, Ecological Engineering, Ecosystem Services, Ecosystem-Based Adaptation

Expert System for Vocational Guidance for Secondary School Students

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Abstract:

Emotional stability has become an internal struggle that we all have, and also a very important factor in the development of learning. Emotional stability comes from the inner spirit that we have and we can only acquire it in two places, which is the family and friends or external people, since this factor is forged with self-esteem and self-confidence, in the course of time, it has been observed how students have various problems, and largely influences their academic performance or in the development of the tasks designated by teachers as well as in household chores, this leads to social isolation, which leads to lack of self-confidence and therefore causing instability in their emotions. Dialogue is a very important means by which we find answers to our doubts and comfort to loneliness, we are aware that being alone for a while helps us to know ourselves, but if not, we can sink into depression, stress or anxiety that could have many consequences. (Porras Jimenez, 2020) is why in the face of social isolation this has worsened, affecting their academic performance, as well as their personal life. In the face of all adversities, the world continues to advance, technology evolves day by day, (Castillo Saenz & Montoya Bello, 2021) artificial intelligence can become an essential use for selection processes. On the other hand remote symptom tracking and monitoring can be systematized, as institutions and professionals generate new, service delivery and technological advances continue to emerge, such as the case of the collaboration between Google X and Biogen collaborating with sensors and data analysis and the dreamMS project in Switzerland, which involves the identification of digital biomarkers for multiple sclerosis using smartphones (Khannan & Jones, 2021). General models have been advanced for the integration of telehealth and remote patient monitoring (RPM) based on reflections of the pandemic with proposals for "augmented continuous connected care" driven by human inputs. It should be noted that companies with a large amount of redundancies, it is problematic to use the traditional selection method as every process requires time to choose a candidate, while having a tool such as artificial intelligence as a complement can be very useful and necessary to optimize time, money and mainly eliminate human bias. Knowing that artificial intelligence can detect various types of changes or alterations, it can also detect an emotional alteration and provide moral support, when a person is not emotionally stable, usually negative thoughts and ideas come to mind, artificial intelligence can detect such problems and provide phrases or tips in order to motivate the user, and in turn help with simpler tasks in daily work. Dialogue is one of the most effective ways to prevent any emotional alteration, the human being needs communication to be able to maintain a balanced mind and once he performs his daily activities (Vivanco Alvarez, Yarleque Ubilluz, & Pajuelo Lucas, 2021) seeks the emotional well-being of the staff, so

that they are psychologically fit and can perform their professional work that will be for the benefit of the population. Despite the little interest of the responsible institutions, he saw how the health area was affected in this pandemic.

Keywords:

Emotional Stability, Artificial Inteligence, Communication

Institutional Management Strategy for the improvement of Service Quality in a Systems Engineering School of a University in Peru

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Abstract:

Every educational institution requires educational quality, where the improvement of its educational processes and activities are important, it is in this context that universities have the demand to comply with what is required. (Ruiz et al., 2021), it is in this sense that they have opted for university accreditation, universities have adopted management models guided in achieving efficiency and optimization of their resources, as well as standards that allow them to access and comply with an accreditation that promotes the quality of an efficient educational service, adequate attention to the student, as well as a model that allows their achievement.

In the international benchmark, there is strong pressure on universities to increase teaching activities for the sake of quality, establishing a strategic priority (Cid et al., 2009). The United Nations Educational, Scientific and Cultural Organization [UNESCO], (2020), establishes that they should have innovative teaching programs oriented to the forefront of research, innovation and development in order to achieve sustainable advancement. and credible of society from diversity. Likewise, it is based on inclusive growth strengthened in personal academic training, with R&D and innovation. Thus, as part of the purposes of higher education is to acquire the specific knowledge necessary for labor insertion (UNESCO, 2022).

Currently, the quality in the training of professionals is key, they must have clear objectives for sustainable development, where innovative and efficient strategies are explored and elaborated to revitalize the social environment of the professional, in order to develop aspects related to the economic, social and environmental. It is meanwhile, that university management is important due to the extensive debate and exchange of ideas to analyze its development in this continuous reform of Latin American organizations.

For these reasons, the School of Systems Engineering of the Hermilio Valdizan National University is no stranger to the national problems of Peruvian universities. In this sense, the professional school should strengthen the process of monitoring graduates so that the demand for job access is higher in relation to current data, in turn strengthen the university social responsibility program to achieve the goals set during the continuous improvement process, organize a tutoring program promoting student attendance in talks, attend maintenance with higher priority, support of the laboratories and technological equipment to satisfy the demand of the users (students), through the records of incidents and instruments applied as an empirical method of diagnosis, insufficiencies have been observed in the theoretical and practical contents of the

institutional management system and condition of the higher education service for u n competitive market, deficient didactic and methodological approach in the institutional management process to improve service conditions in the established standards, little practical importance in institutional management and required improvement in the quality of higher education services, hence the problem It is formulated: How does the institutional management strategy improve the quality of service of the professional school of systems engineering of the Hermilio Valdizan National University?
For these reasons, the general objective of this study is proposed Propose an institutional management strategy to improve the quality of service of the professional school of systems engineering of the Hermilio Valdizan National University. It is expected to propose an improvement in the Quality of service of the School of Systems Engineering.

Keywords:

Quality, Service, Strategy

The Correlation Between Risk Assessment and Project's Performance in Libyan Construction Industry

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Abstract:

The construction projects represent the basic framework for the process of economic and social development in any country because it is linked to all economic sectors, where the success of development plans depends primarily on the success of these projects. However, it faces many challenges and financial and non-financial risks that impede its success, especially in developing countries that suffer from political and economic instability such as Libya. Therefore, the current research seeks to explore the effect of assessment of risks (RMP-RA) on the project performance of Libyan construction. A survey of construction companies' directors was undertaken in Libya and a total of 250 useable questionnaires were received for empirical research for the suggested model, utilizing a structural-equation model (Smart-PLS). The findings from this research revealed that RMP-RA has effects with positive and significant on the performance of Libyan construction projects. According to this study, RA has been identified as the most critical resource and capability that can assist construction firms in fostering its projects' performance in Libya. It has made a significant contribution by increasing awareness of the effect of RMP-RA on construction projects' performance.

Keywords:

Assessment Of Risk; Project Performance; Libyan Construction Industry

Review of Enhanced Comprehensive Local Integration Program (E-Clip) in the Municipality of Talaingod, Davao Del Norte

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Abstract:

The Enhanced Comprehensive Local Integration Program (E-CLIP) is a government reintegration program designed to help rebel members of CPP-NPA-NDF and Militia ng Bayan to return to mainstream society. This mixed quantitative and qualitative case study sought to understand experiences and insights on the implementation of E-CLIP in the municipality of Talaingod, Davao del Norte among Local Government Units officers and former rebels. Through thematic analysis, the study found out that design of E-CLIP is bound to operate through its legal framework, governance structure, and re-integration program where government offices lead the implementation through the support of administrative orders. The process has 4 phases which begins in pre-surfacing, surfacing, socio-economic & capability building, and sustainability & community building phase. The program has intended outcomes on financial, economic, and medical assistance. However, the implementation is affected by delayed release of benefits among FR's, the lack of funds, insufficient strategic communication planning, delayed processing of information monitoring and the absence of the former rebels in the half-way house yet it is effectively implemented with the availability of the information system, active participation among government agencies and the good relationship among the local government unit officers.

Keywords:

Talaingod, E-CLIP