

AECIT-2019



**3rd International Conference on Advancements
in Engineering, Computer Science and Information
Technology**

The Howard Plaza Hotel Taipei, Taiwan

December 6-7, 2019



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CONFERENCE BOOK OF ABSTRACT PROCEEDINGS

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Engineering Science Research & Development Board



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***3rd International Conference on Advancements in
Engineering, Computer Science and Information
Technology (AECIT-2019)***

Venue: The Howard Plaza Hotel Taipei, Taiwan

Conference Theme: : Exchange of ideas and providing prime networking opportunities for engineering and technology education stakeholders.



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CONFERENCE TRACKS

- Basic Science
- ICT
- Electrical Engineering
- Mechanical & Industrial Engineering
- Civil Engineering
- Business and Management Studies
- Electric Drives and Control
- Electrical Machines
- Instrumentation Engineering
- Power Generation, Transmission and Distribution
- Power System Engineering

CONFERENCE CHAIR MESSAGE

Ms. Mei Shu Lai

“International Conference of Engineering Science Research and Development Board” is a platform that thrives to support the worldwide scholarly community to analyze the role played by the multidisciplinary innovations for the betterment of human societies. It also encourages academicians, practitioners, scientists, and scholars from various disciplines to come together and share their ideas about how they can make all the disciplines interact in an innovative way and to sort out the way to minimize the effect of challenges faced by the society. All the research work presented in this conference is truly exceptional, promising, and effective. These researches are designed to target the challenges that are faced by various sub-domains of the social sciences and applied sciences.

I would like to thank our honorable scientific and review committee for giving their precious time to the review process covering the papers presented in this conference. I am also highly obliged to the participants for being a part of our efforts to promote knowledge sharing and learning. We as scholars make an integral part of the leading educated class of the society that is responsible for benefitting the society with their knowledge. Let’s get over all sorts of discrimination and take a look at the wider picture. Let’s work together for the welfare of humanity for making the world a harmonious place to live and making it flourish in every aspect. Stay blessed.

Thank you.

Ms. Mei Shu Lai

Conference Chair

Email: contact@esrdb.com



CONFERENCE AGENDA

Conference Name: 3rd International Conference on Advancements in Engineering, Computer Science and Information Technology (AECIT-2019)

Day & Date: Friday, December 06, 2019

Venue: The Howard Plaza Hotel Taipei

Timeline of Day 01

08:00 - 08:05 am	Registration of Participants
08:05 - 08:10 am	Introduction of Participants
08:10 - 08:15 am	Inauguration and Opening address
08:15 - 08:20 am	Grand Networking Session

Tea/ Coffee Break: 08:20 - 08:30 am

DAY 01 Friday (December 06, 2019)

Presentation Session (08:30 am - 11:00 am)

Venue: Room 1

Track A: Business, Economics, Social sciences & Humanities

Presenter Name	Manuscript Title	Paper ID
Jee Fenn	Organisational Climate and Teacher Commitment	MTLBL-DEC19-101
Weisheng Chiu	Exercise partners: The role of technology readiness in exercisers' intention to use health and fitness applications	MTLBL-DEC19-104
Dr Jiwat Ram	What are the information management challenges when using Social media in Project Management?	MTLBL-DEC19-109
Gde Indra Bhaskara	Mount Agung Eruption in Bali: Integrating Disaster Management Into Tourism	MTLBL-DEC19-110
Yvonne, Hsiao Ying Cheng	Operational Risk Management Control in Processes	MTLBL-DEC19-111
Ju-ho Kim	Upcoming services and business models for HEMS in Korea based on Eco-Science Methodology	MTLBL-DEC19-112
Hyeog In Kwon	Upcoming services and business models for HEMS in Korea based on Eco-Science Methodology	MTLBL-DEC19-112C
Moo Goong Hong	Upcoming services and business models for HEMS in Korea based on Eco-Science Methodology	MTLBL-DEC19-112C1
Bo Hyun Baek	Upcoming services and business models for HEMS in Korea based on Eco-Science Methodology	MTLBL-DEC19-112C2

Track B: Engineering, Technology & Applied Sciences

Siang-Min Siao	Kalman Filter Observation Error Model Applied to Vehicle Tracking Dynamic Obstacle Correction	AECIT-DEC19-101
Po-Hsiang Liao	Based on Front-end and Back-end platforms and Image Processing Algorithm to Design People Counting Analysis System	AECIT-DEC19-102

Lunch Break & Closing Ceremony (11:00 am - 12:00 pm)



Conference Day 02 (December 07, 2019)

Second day of conference will be specified for touristy. Relevant expenses are borne by Individual him/herself.

TRACK A

BUSINESS, ECONOMICS, SOCIAL SCIENCES & HUMANITIES



Organisational Climate and Teacher Commitment

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Keywords: Teacher Commitment, Organisational Climate, Secondary School, Sarawak.

Organisational climate and teacher commitment are a few critical factors that explained the effectiveness of a school. However, there is lack of study concerning the relationship between schools organisational climate and teacher commitment. Therefore, there is a need to carry out study that can contribute to an expansion of theory that explains the relationship between organisational climate and commitment. Hence, this study focuses on the relationship between schools organisational climate and teacher commitment. This study utilising cross sectional descriptive study design, with purposive sampling that involved 375 teachers from 167 secondary schools in Sarawak, Malaysia. Two survey instruments were used in this study, namely, the Organizational Climate Index (OCI) and the Organizational Commitment Questionnaire (OCQ). The four dimensions in the schools organisational climate (i.e. collegial leadership, teacher professionalism, academic press and institutional vulnerability) were the independent variables. While, the teacher commitment served as the dependent variable. The results of this study indicated that schools organisational climate is significantly related to teacher commitment. Dimensions such as collegial leadership, teacher professionalism and academic press have positive significant relationship with teacher commitment. On the contrary, institutional vulnerability was found to have no relationship with teacher commitment. In addition, this study also showed that the most dominant predictor of teacher commitment is the teacher professionalism. In conclusion, the results of this study revealed that there is a strong academic expectancy variable in teacher commitment. The results contributed in giving a rise to some practical implications for principals, teachers, parents and academics.

Exercise partners: The role of technology readiness in exercisers' intention to use health and fitness applications

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Keywords: Technology Readiness, Technology Acceptance Model, Perceived Enjoyment, Technology Readiness and Acceptance Model, Health and Fitness App

The purpose of this study was to examine individuals decision to use health and fitness apps by applying the extended technology readiness and acceptance model (TRAM), which combine technology readiness (TR), technology acceptance model (TAM), and perceived enjoyment (PEN). Moreover, this study explored the difference between users and non-users regarding their intention to use health and fitness apps. Data collection (n = 206) was conducted using convenience sampling from four large universities in South Korea. Data were analysed by partial least squares structural equation modelling using SmartPLS 3.0. The results found that positive TR has a positive impact on perceived ease of use (PEOU), perceived usefulness (PU), and PEN, while negative TR has a negative impact only on PEN. Also, the significant relationships between PEOU, PU, and PEN were identified. In addition, the multi-group analyses found that the relationships between positive TR and PEN, between PEN and PEOU, between PEOU and PU, and between PU and behavioural intention are positively stronger for app users. This study initially applied the TRAM to understand individuals behavioural intention to use health and fitness apps. Moreover, this study identified the distinct roles of positive TR and negative TR affecting individuals cognition of using health and fitness apps. In addition, different psychological processes between app users and non-users offer insights implications for practitioners.

What are the information management challenges when using Social media in Project Management?

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Keywords: Project Management, Social Media, Challenges, Project Manager Skills, Information Management

The use of social media for business is growing in diversity and applications. The wide-scale utility of project management for all types of businesses provides a perfect avenue for the use of social media for the delivery of projects. However, given the infancy of social media developments, the knowledge on the challenges of using social media in project management remains limited. To address the gap, this study collected data from a large-scale survey involving 167 industry experts. The answers to open-ended questions were content analyzed using coding and query analysis in Nvivo 21.0 software. The results show that use of social media in project management is faced with a number of challenges. Specifically, our study shows that inability to maintain record of social media communications on an ongoing basis, information leakages, inability to validate source of information, and difficulties in enforcing access control are some of the key challenges to manage social media driven information, which could adversely affect the successful delivery of projects. Academically, the study builds new knowledge on use of emerging technologies and challenges to such use. The study offers a framework of key challenges related to information management in project delivery, thus developing new insights in an area with little research to-date. Managerially, the findings will help organizations understand the challenges and strive to devise strategies to deal with the challenges. Managers will be able to use the knowledge to develop skills, resources and processes to handle challenges of using social media and enhance chances of successful delivery of future projects.

Mount Agung Eruption in Bali: Integrating Disaster Management Into Tourism

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Keywords: Disaster Management, Destination Management, Tourism Destination, Bali,

This research examines the extent to which the current framework of disaster management in Bali embraces the prospects of tourism development. It evaluates the scale of integration of the national strategies, approaches and actions of disaster management into the destination management practices in Bali. The research conducts a comprehensive literature review on the inter-play of destination management and disaster management as reported in the case studies from around the world. It adopts a qualitative research paradigm, semi-structured interviews with destination management and disaster management stakeholders in Bali, in order to understand the current practices in effective co-management of tourist destinations and natural disasters. The interviews facilitate the compilation of a database on the emergency plan by the tourism stakeholders in Bali. The results of research contribute to better understanding of the challenges of embracing destination management in the context of disaster management in Bali.

Operational Risk Management Control in Processes

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Keywords: Operational Risk Management Control, Innovation Practice, Organizational Process Control

The principle of enterprise process management is the combination of the theory and practice of quality systems and customer orientation is the primary goal. Therefore, the customer-oriented process is an important factor to consider when establishing the process architecture. For the enterprises and organizations, the process-oriented management refers to control risk, reduce costs, improved the speed and agility to the market. Ultimately improve customer satisfaction and the competitiveness of companies also gain profit and business performance. Therefore, in response to the customer-oriented process design practical tool for the current market risk and its own competitiveness is very useful. How to use relevant tools to design and practice business processes Corresponding to risk society has become an important issue between enterprises and organizations. Process design and application process performance measurement indicators must be based on a thorough understanding of the purpose and purpose of the corporate and organizational culture, and then set goals and ways of achieving the short-, medium- and long-term, and then use relevant tools and monitoring methods to improve the efficiency and effectiveness processes. The purpose of this study is to study the design of the process and the use of tools for the organization's ability to respond to the unknown risks. This research method adopts the experimental design to explore the effect of the efficiency of the organization before and after the process design. Also continue to improve the ability of enterprises and organizations to face the known operational risks.

Upcoming services and business models for HEMS in Korea based on Eco-Science Methodology

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Keywords: HEMS, Energy Market, Eco-Science Methodology, Business Model

Energy consumption efficiency is noticeable not only in Korea but also in the whole world. EMS(Energy Management System) technology, in the present, already partially attached to the existed or new buildings, thus it is expected to be applied to the home, so called HEMS(Home Energy Management System). Korean families are not that sensitive to the cost of electricity, but as the new technologies, such as electric car, smart home appliances and etc, need more electricity, HEMS is promising service for sustainable and cost-efficient supply. Even though consumers are not unsatisfied with the traditional system, there are still undiscovered problems. This study found the hidden pain points of current system, divided customers needs and suggested business models in the perspective of Eco-Science methodology. Eco-Science methodology gives solution to the market in the holistic perspective of ecosystem, platform, services and strategy. This study, firstly, analyzed the home energy market in Korea with PEST analysis and pain point survey from 377 customers. And, the expected services were suggested by 9 experts with the IPA(Importance-Performance Analysis) method and in-depth interview. Based on the promising services, hard laddering method was used to segment the customers orientation. And, the study structured the business models and the strategies for each segmentation that can be utilized to the EMS for home. Consequently, characteristics of HEMS potential customers consists of four categories: Cost efficient-oriented, Life quality-oriented, Convenience-oriented, and Eco-friendly-oriented. And two business models, Energy management model and Home care model, were suggested with strategies to cover all types of customers in Korean home energy market.

TRACK B

ENGINEERING, TECHNOLOGY & APPLIED SCIENCES



Kalman Filter Observation Error Model Applied to Vehicle Tracking Dynamic Obstacle Correction

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Keywords: Advanced driver assistance system (ADAS) Kalman Filter Radar

In order to increase accuracy for detection dynamic obstacle, this paper presents a Kalman filter observation error model based on 77 GHz middle range radar (MRR). In recently, the vehicle equips advanced driver assistance system (ADAS) which becomes more popular. Among these, the accuracy of the obstacle information, such as distance, relatively speed and position, is the most important purpose. However, radar is one of the mainly detection sensor, but its data transmission delay which includes millimetre wave reflection, analogy to digital signal conversion, and data process, would influence radar tracking correction. Therefore, algorithm of the proposed model adopts detection time, and dynamic estimated model of obstacle to compensate detection delay, such that the dynamic correction mean error can be reduced. Next, the testing condition sets RTK-GPS as the real world reference frame, the experimental would be realized with dynamic scene. According to the above results, when the target distance closer 100 meter, the dynamic correction mean error of our model were improved 59%, 74%, 78% during in 20kph, 40kph, and 60kph relatively speed, respectively.

Based on Front-end and Back-end platforms and Image Processing Algorithm to Design People Counting Analysis System

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Keywords: People Counting, Deep Learning, Machine Learning

This paper presents a people counting method that is derived from traditional machine learning and deep learning algorithms. The proposed design mainly provides cognition information of a period of time which is peak hour or off hour in specific public places, such as transportation tools, hotel lobby, and bus shelter. Its advantage can efficient save management cost. In previously literatures, the traditional machine learning technique, such as support vector machine (SVM) would be adopted for the people counting. However, pedestrian recognition rate of the previous means is lower than deep learning method. Hence, the Convolutional Neural Network (CNN) is derived to improved drawback of worse recognition rate. But, in view of its computation task is very heavy when processing of operating the system. Therefore, the proposed system is designed based on two-stage architecture which contains previous two methods in front-end and back-end, respectively. Among these, the first stage which is front-end that mainly be used for pedestrian recognition. According to the above results, the people number counting could be executed. After that, the statistics consequence is classified to two-level and then the back-end stage only need to process pedestrian recognition of level two. Finally, the experimental results shows that the pedestrian recognition is increased and computational complexity is reduced when comparing with traditional machine learning and deep learning, respectively. The experimental results indicated that the proposed front-end design had 84.56 accuracy for detection performance. The other proposed architecture which is back-end can obtain detection accuracy of 93.59%. On the other hand, the proposed method also improves average 29% execution time when comparing with the related designs.

UP COMING EVENTS

You can find the details regarding our upcoming events by following below:

<http://esrdb.com/conferences/iaets-jan-2020/>

<http://esrdb.com/conferences/ctsest-feb-2020/>

<http://esrdb.com/conferences/ictkea-march-2020/>

<http://esrdb.com/conferences/driect-april-2020/>

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<http://esrdb.com/conferences/csebd-june-2020/>

<http://esrdb.com/conferences/etase-2020/>

Vision

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