TARIJ

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Organizing Committee

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   Conference Coordinator

2. **Mr Leon Yap**

   Conference chiar

3. **Hideo Owan**

   Conference Coordinator

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Conference Chair Message

Dr Ishida Otaki

"Tokyo Academy of Research & Innovation (TARIJ)" serves as platform that aims to help the scholarly community across nations to explore the critical role of multidisciplinary innovations for sustainability and growth of human societies. This conference provides opportunity to the academicians, practitioners, scientists, and scholars from across various disciplines to discuss avenues for interdisciplinary innovations and identify effective ways to address the challenges faced by our societies globally. The research ideas and studies that we received for this conference are very promising, unique, and impactful. I believe these studies have the potential to address key challenges in various sub-domains of social sciences and applied sciences.

I am really thankful to our honourable scientific and review committee for spending much of their time in reviewing the papers for this event. I am also thankful to all the participants for being here with us to create an environment of knowledge sharing and learning. We the scholars of this world belong to the elite educated class of this society and we owe a lot to return back to this society. Let's break all the discriminating barriers and get free from all minor affiliations. Let's contribute even a little or single step for betterment of society and welfare of humanity to bring prosperity, peace and harmony in this world. Stay blessed.

Thank you.

Dr Ishida Otaki
Conference Chair
SMBIA-Secretariat, 2018

Conference Schedule

DAY 01 Saturday (September 22, 2018)

<u>Venue: Room 1</u>

09:00 am – 09:10 am	Welcome Reception & Registration
09:10 am – 09:20 am	Opening Ceremony
09:20 am – 09:30 am	Welcome Remarks – Conference Coordinator TARIJ
09:30 am – 09:40 am	Introduction of Participants
09:40 am – 9:50 am	Group Photo Session
09:50am – 10:00 am	Grand Networking Session and Tea Break

DAY 01 Saturday (September 22, 2018)
<u>**Session 1 (10:00 am – 12:30 pm)**</u>
Venue: Room 1

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Lunch Break 12-30 pm to 01-30 pm

Closing Ceremony

List of Conference Attendees

The following Scholars/ practitioners/educationist who don't have any paper presentation, however they will be attending the conference as delegates & observers.

Sr. No	Official ID	Name	Affiliation Details
01	**SMBIA-SEP2018-115A**	Dr. Rer. Pol. Habil. Martin Kloyer	Chair for Business Administration, especially for Organization, HR, and Innovation University of Greifswald

DAY 02 Sunday (September 23, 2018)

City History and Discussion Session

The purpose of the second day conference will be for the participants to learn more about the local history and culture, or get to know the other participants better. Therefore,

Option 1: City History and Culture Tour: All the participants are free to organize your own group tours together and get to know each other better.

Option 2: Discussion Session: All the participants are free to make group discussions on behalf of your same research interest and get a chance to cooperate in the future Research.

TRACK A: BUSINESS, ECONOMICS, SOCIAL SCIENCES AND HUMANITIES

Multi-Criteria Analysis and network analysis for walkability score in Amphoe Muang, Nonthaburi, Thailand

Teerawate Limgomonvilas[1*], Ridtida Nimanong[2]

Abstract This research aims to analyze geographic factors and walkability score in Amphoe Muang, Nonthaburi, Thailand. The score calculated from two mains of factors. First, physical of road network are 1) centrality and 2) betweenness. Second, accessibility from facility are 1) commercial 2) public transportation 3) landmarks 4) recreation area 5) workplace 6) residential 7) scenery and 8) safety. Fuzzy membership method is used to set score factor (0-1). Rank Sum weight (RS) method are used for compared all factors and used Network analysis to combine walk scores and determine total scores for compare alternative route. The result shown that public transportation (0.182) is highest weighting commercial (0.164) safety (0.145) scenery (0.127) betweenness (0.109) centrality (0.091) landmarks (0.073) residential (0.055) workplace (0.036) and recreation area (0.018) respectively. Analysis walkability by network analysis found that highest-walkability is 15.10% high-walkability is 20.75% moderate-walkability is 26.47% low-walkability is 27.07% and very low-walkability is 10.60%. The conclusion is best walkability route located on Rattanathibeth Road because of it have high accessibility factor along the route such as MRT (public transportation) department store (commercial) and police station (safety).

Keywords: Walkability, Nonthaburi, Geographic

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Financial Efficiency and Economic Growth in Thailand

Chollada Luangpituksa, Ph.D*

Abstract This paper investigates the relationship between financial efficiency and economic growth in Thailand with annual time series during 1991 - 2015. Financial efficiency measures (i) bank efficiency in intermediating savings to investment, as measured by the net interest margin (the accounting value of bank's net interest revenue as a share of its average interest-bearing assets); IMARGIN and lending-deposit spread; ISPREAD and (ii) operational efficiency measures, such as overhead costs to total assets; NONILIA while the percentage change of real GDP per capita (RGDP) represents economic growth. The Augmented Dickey – Fuller Test (ADF) of the stationary test shows that all data are stationary at the first difference except ISPREAD is stationary at the second difference. Since all variables are not integrated at the same order, hence there are no short run and long run relationship between financial efficiency variables and economic growth. The pairwise Granger causality result; with 1 lagged length selected by Akaike Information criterion (AIC), shows that no causality between financial efficiency variables and economic growth and vice versa; supports the 'neutral hypothesis'. However, there is a one –way causality linkage between two financial efficiency indicators, lending and deposit interest rate spread and the ratio of overhead costs to total assets. In other words, the banks' profit from interest spread is used to improve bank efficiency such as hiring more staff, increase number of branches and ATM machines to improve bank services. Therefore, financial institutions should provide financial services to response customers' needs as the commercialization and modernization of the economy.

Keywords: Financial Effficiency, Economic Growth, Granger Causality, Lending-Deposits Spread, Net Interest Margin, Overhead Cost

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Mobile Learning in a Chinese Business Context

Yibing Zhang[*]

Abstract The increasing use of mobile devices and mobile technologies in everyday living has brought many opportunities for corporate business via mobile learning. Mobile devices with Internet capabilities and applications have dramatically increased the convenience and effectiveness of accessing information for employees' learning and development, which establishes a need for better understanding how people learn through mobile devices in the increasing complex and dynamic business environment. As a highly popular possession among the employees in the Chinese organizations, as well as among general population, learning through mobile devices in the context of Chinese business setting warrants attention from both the HRD (Human Resource Development) practitioners and researchers. This study aims at identifying mobile learning characteristics in a Chinese business setting. A mixed research approach of quantitative and qualitative methods was employed, which involved a survey with 665 responses and interviews with 40 employees from four business organizations in China in 2017. Based on the outcome of this study, the key characteristics of mobile learning in a Chinese business setting have been presented and discussed. This study provides useful information in understanding the drivers, perceived benefits, concerns and trends for mobile learning in China in order to take proactive interventions for successfully implementing mobile learning in Chinese organizations. Theoretical and practical implications, limitations, and opportunities for future research were discussed.

Keywords: Mobile, Business Context, Technologies

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Resistivity Survey and Groundwater Quality Analyses in Pepel, Sierra Leone

Yaguba Jalloh[1], Kyuro Sasaki[2], Abu B. Jalloh[3], Mustapha Olajiday Thomas[4]

Abstract Water is an important natural resource that requires proper management to ensure its quality, quantity and sustainability. In Pepel, northern region of Sierra Leone, majority of the population depend on groundwater for domestic and other purposes. For this reason, resistivity survey and water quality analyses were conducted in 5 boreholes in Pepel. Four geoelectric layers were identified viz a top sandy soil, a wet clay layer, and a fine-medium-coarse sand layer identified as the aquifer layer and the fourth sandy gravel layer as the confine aquifer, which is the source of portable water in the study area. Depth to the aquifer ranges from 4.18 m in the vicinity of BH4, 8.37 in the vicinity of BH2, 9.35 m in the vicinity of BH5. Both BH1 and BH3 have depth of 16.20 m each. The absence of legitimate surface water sources clearly indicates that most of the rainfall goes into storage in the subsurface, which indicate that the groundwater potential in the area could be good. The results showed that there is a linear relationship between resistivity, transmissivity and depth through sandy soil formations (porous aquifer). Analyses of water quality showed that, the presence of NO_3^- and SO_4^- , lowered the pH and the water becomes acidic which dissolves the Fe^{2+} and Mn^{2+}. This may leach through the ground slowly to contaminate the underground water resources.

Keywords: Vertical Electric Sounding, Groundwater, Portable Water and Water Quality.

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Novel Feature Selection Index for Molcular Classification

Hung-Yi, Lin[*]

Abstract Traditional feature selection methods have two major inappropriate designs in their criterion. Firstly, they trade the profit of relevant information off against the risk of redundant information. Secondly, they cannot get rid of the well-known trap of "the m best features are not the best m features". There is no necessary inheritance between two consecutive selection rounds. As a remedy for the first problem, we propose a new selection criterion, which concentrates on verifying discrimination boosting effect derived from the additional feature. A novel feature selection scheme is also proposed in this paper as a mend on the second problem. Our experimental results show that dissimilar subsets composed of totally different selected features can have so quite similar discrimination power that they might achieve resembled classification quality. They also reveal that our proposed method can successfully explore simple reduced subsets of features for three datasets with both efficacy and efficiency.

Keywords: Cluster Analyses; Discrimination Power; Feature Selection; Molcular Classification; Information Gain

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Measuring Performance of Thai Saving and Credits Cooperatives using Data Envelopment Analysis

Nakhun Thoraneenitiyan[*]

Abstract The first cooperative of Thailand was established in 1916 under the main objective to be the source of funds for the cooperative members. Until present, the cooperative businesses have been highly developed and grown. In 2017, there have been 8,194 cooperatives throughout the country. Among various types of Thai cooperatives, savings and credit cooperatives (SCCOs) play an important role for Thai cooperative society. The SCCOs are also known as one of the microfinance institutions format in the category of retail microfinance institutions. In recent years, it was found that the savings and credit cooperatives generated maximum business volumes about 79% of total cooperative business transactions. The aim of this research is to find an appropriate benchmark model by proposing non-parametric efficient frontier approach called Data Envelopment Analysis (DEA) as an alternative method to evaluate the performance of savings and credit cooperatives in Thailand. Additionally, the sources of inefficiency in the SCCOs and potential improvements will be investigated. The financial data of 134 large SCCOs during January-December 2017 were collected from the databases of Cooperative Auditing Department, Ministry of Agriculture and Cooperatives of Thailand. The CCR and BCC output maximsation models comprise of 2 inputs and 3 outputs, according to production approach, were used to estimate technical efficiency. The primary results show that performance of the SCCOs lies between 73.58 to 77.63 percent, on average. The efficiency evaluation results classified according to the types of cooperatives indicated that the educational institution cooperative had maximum quantity of efficient cooperatives and average efficiency score.

Keywords: Savings and Credit Cooperative, Performance Measurement, Data Envelopment Analysis

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An Innovative Tool for SME Hotels

Nuntasaree Sukato[1] Tzu-Ching Lin[2]

Abstract In global business, tourism industry is a fast-growing sector and faces with the pressures of a highly competitive environment. Likewise, the tourism industry plays a significant role to drive national economic growth in Thailand. The hotel segment is chosen for this study because hotel industry has continued to grow and the weight of tourism in Thailand further highlights the importance of maintaining competitiveness in the hotel industry. In addition, The Thai government has the strategic policy of preparation for small and medium enterprises (SMEs) entering the ASEAN Economic Community (AEC) since 2015. In recent years many countries have implemented strategies for the establishment and expansion of SMEs to promote economic growth, employment and income generation. For this reason, SME hotels in Thailand are worth to investigate because they need to gain a distinctive advantage in order to sustain their businesses and, finally generate income to the country. SME hotels are encouraged to adopt innovative practices to better maintain relationship with their targeted customers. The use of databases has been increasing in the industry and importantly, data mining offers considerable potential as parts of customer relationship in the hotel industry due to its benefit for managing large and complex buyer behavior. However, it has been used rarely in SME hotels. This study aims to introduce the application of data mining in SME hotels in Thailand. A qualitative approach was chosen because the study aimed to conduct a preliminary exploration of innovative application in SME hotels in Thailand. The purposive sampling with a snowball technique was employed to organize personal in-depth interviews with hotel managers. The findings showed that an innovative practice, i.e. data mining, essential for the development of long-term relationships with customers in the industry. In order to help SME hotels enhancing their performance, this study suggested a four-stage process of data mining.

Keywords: Hotel; Innovative Tool; SMEs; Tourism.

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TRACK B: ENGINEERING & TECHNOLOGY, COMPUTER, BASIC & APPLIED SCIENCES

Design of Outdoor Autonomous Mobile Robot

Mr. I-Hsi Kao[1*], Jian-An Su[2], Jau-Woei Perng[3]

Abstract This study presents the design of a six-wheeled outdoor autonomous mobile robot. The main design goal of our robot is to increase its adaptability and flexibility when moving outdoors. This six-wheeled robot platform was equipped with some sensors, such as a global positioning system (GPS), high definition (HD) webcam, light detection and ranging (LiDAR), and rotary encoders. A personal mobile computer and 86Duino ONE microcontroller were used as the algorithm computing platform. In terms of control, the lateral offset and head angle offset of the robot were calculated using a differential GPS or a camera to detect structured and unstructured road boundaries. The lateral offset and head angle offset were fed to a fuzzy controller. The control input was designed by Q-learning of the differential speed between the left and right wheels. This made the robot track a reference route so that it could stay in its own lane. 2D LiDAR was also used to measure the relative distance from the front obstacle. The robot would immediately stop to avoid a collision when the distance between the robot and obstacle was less than a specific safety distance. A custom-designed rocker arm gave the robot the ability to climb a low step. Body balance could be maintained by controlling the angle of the rocker arm when the robot changed its pose. The autonomous mobile robot has been used for delivery service on our campus road by integrating the above system functionality.

Keywords: Lane keeping, Q-Learning, Robotic.

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Lexicon-based Sentiment Analysis system on the Policies of Taiwan National Health Insurance

Ying Lung Lin[*]

Abstract Abstract: National Health Insurance (NHI) is an important health policy that deeply affects Taiwanese. To achieve the higher quality policies, the officials need some powerful tools to perceive the feedbacks. Then refer the feedbacks to revise the policies with time. Therefore, we introduce the lexicon-based sentiment analysis system in the health domain. To confirm our system is feasible, we validate it with the 2017 annual questionnaire. The result shows the system can reflect the facts on three NHI related policies (1) Family physician (2) Hierarchical medical system (3) Blue button system. Thus we sure the system is reasonable. Through the functions we deploy, we can use visualization tools to find the key points and filter out the unrelated comments. These help officials to analyze the sentiment in real-time. Overall, the lexicon-based method is both useful and lower cost. Moreover, get the benefit from the simple structure; our system can quickly reproduce to other domains. This study also discusses the disadvantages of the lexicon-based method. Fortunately, this can be improved by the learning-based method in the future. We hope this system can facilitate officials capture what people talk. Let the NHI related policies be better.

Keywords: Sentiment Analysis, Opinion Mining, Lexicon-based.

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