

**PROCEEDINGS**

# **PEIAB-2019**

**2nd International Conference on Future  
Trends in Production, Engineering  
Information Technology, Applied Sciences  
& Bioinformatics**

**Venue: Hotel Mystays Ochanomizu Conference  
Center, Tokyo, Japan**

**Date: December 28-29, 2019**



# ***CONFERENCE BOOK OF ABSTRACT PROCEEDINGS***

*Consortium-ET*

Consortium of Engineering & Technology



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# **Book of Abstracts Proceedings**

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Proceedings of the 2nd International Conference on Future Trends in Production, Engineering, Information Technology, Applied Sciences & Bioinformatics

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***2nd International Conference on Future Trends in  
Production, Engineering, Information Technology,  
Applied Sciences & Bioinformatics (PEIAB)***

**Venue: Hotel Mystays Ochanomizu Conference Center Tokyo, Japan**

**Conference Theme:** An effective platform to meet other renowned  
experts in the filed of engineering and technology



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## CONFERENCE TRACKS

- Computer and Software Engineering
- Mechanical & Metallurgical Engineering
- Electrical & Electronics Engineering
- Civil Engineering
- Bio-Technology & Food Technology
- Chemistry & Chemical Engineering
- Physical, Applied and Life Sciences
- Interdisciplinary

## CONFERENCE CHAIR MESSAGE

### **Michael Sasaoka**

“International Conference of Consortium of Engineering & Technology” 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.

Michael Sasaoka

Conference Chair

Email: [contact@consortium-et.com](mailto:contact@consortium-et.com)

## CONFERENCE SECHDULE

**Consortium-et-2019**

**Venue: Hotel Mystays Ochanomizu Conference Center Tokyo, Japan**

**Time: Registration & Kit Distribution (09:00 am - 09:10 am)**

**Day: Saturday**

**Date: December 28, 2019**

**Venue: Room 1**

09:10 am - 09:20 am	Introduction of Participants
09:20 am - 09:30 am	Inauguration and Opening address
09:30 am - 09:40 am	Grand Networking Session

**Tea/Coffee Break (09:40 am - 10:00 am)**

**DAY 01 (December 28, 2019)**

**First Presentation Session (10:00 am - 12:00 pm)**

**Venue: Room 1**

**Track A: Business, Economics, Social Sciences & Humanities**

<b>Paper ID</b>	<b>Manuscript Title</b>	<b>Presenter Name</b>
SASE-DEC2019-101	Does Learning by Credit & Value Creation in Depository Financial Institutions Explain Financial Development in Developing Economies? Evidence from Sub-Saharan Africa and Asia Pacific	ADUBA, Joseph Junior
SASE-DEC2019-125	Visitors Attachment to Tourist Places in Manama, Bahrain. Towards Urban Tourism Regeneration	Amine Moulay,
SASE-DEC2019-126	Impacts of Exchange program attendance on learning performance in higher education: An Empirical Study	Dr. Ricky Y. K. Chan,
SASE-DEC2019-131	A Bayesian approach for analyzing the dynamics in the productivity of rice production in Madagascar	Finaritra Solomampionona M. & Koki Kyo
SASE-DEC2019-134	Traders Order Decisions: Evidence from the Taiwan Stock Exchange	Hsiang-Yu Lo
SASE-DEC2019-115	Free Cash Flow Valuation: Pedagogical and Practical Implications	Frank Ohara

**Track B: Engineering, Technology & Applied Sciences**

PEIAB-DEC19-102	Factors Affecting to Long-Term Relationship of Outsourcing: A case study of Thailand	Thitiporn Katato
PEIAB-DEC19-103	Applications of Customised Screen Sharing Platform	Khong-Neng Choong
PEIAB-DEC19-106	Issues in Memory Management For Emerging Highperformance Storage	Hyokyung Bahn

**Lunch Break:**(12:00 - 01:00 pm)

## **Participants Registered as Listener/Observer**

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

**Official ID:** SASE-DEC2019-131A

Prof. Koki Kyo

Obihiro university of Agriculture and Veterinary Medicine, Japan

**Official ID:** SASE-DEC2019-135A

Eman S. Aldweikh

King Fahd Medical City

## **Conference Day 02 (December 29, 2019)**

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



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***TRACK A***

***BUSINESS, ECONOMICS, SOCIAL SCIENCES & HUMANITIES***





## Traders Order Decisions: Evidence from the Taiwan Stock Exchange

<sup>1\*</sup>Pi-Hsia Hung, <sup>2</sup>Hsiang-Yu Lou

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**Keywords:** Order-by-Order, Order Aggressiveness, Marketable Limit Order, Limit Order, Trading Strategy

This study employs order-by-order, trade-by-trade data and best quoted data to examine order choice decision by various traders in a pure order-driven market. Specifically, we provide information on the following questions. (1) We empirically investigate the order-by-order correlation in order types across various investor classes, controlling for order-, firm-specific characteristics, time effects and market factors. (2) We analyze the asymmetric effect of order-by-order serial correlations between buy and sell orders. (3) We test the liquidity hypothesis and examine whether large bid-ask spread increases the probability of inside -the-quote orders limit orders and decreases the probability of marketable limit orders? (4) We furthermore examine the market depth forecasting effect. Whether large best ask (bid) depth increases the probability of a marketable limit sell (buy) and large best bid (ask) depth decreases the probability of a marketable limit sell (buy)? Who exhibits the greatest market depth forecasting trading behavior? (5) Finally, as the trading time of day increases, is it possible to reduce the possibility of marketable limit buy or sell orders and increase the possibility of limit buy or sell orders? Our analysis yields the following expected findings. (1) We expect the order activities are clustered and the serial correlation in order types on an order-by-order basis is positive, suggesting a follow-on strategy by traders. (2) Consistent with short-term market depth, large best ask (bid) depth increases the probability of a marketable limit sell (buy) and the large best bid (ask) depth decreases the probability of a marketable limit sell (buy). (3) As the trading time of day increases, marketable limit buy or sell orders become less likely and limit buy or sell orders become more likely. The traders are most aggressive to submit marketable limit orders early in the day.

## A Bayesian approach for analyzing the dynamics in the productivity of rice production in Madagascar

<sup>1\*</sup>Finaritra Solomampionona M. , <sup>2</sup>Koki Kyo

<sup>1,2</sup>Obihiro University of Agriculture, Japan

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**Keywords:** Food Security in Madagascar, Rural Development, Technology Impact, Productivity of Rice Production, Bayesian Statistical Modeling

The economy decreases caused by the lack of growth in the agricultural sector and demographic pressure from an increase in the rural population are the challenges that Madagascar are facing. Especially, an issue is the safety of the food supply in Madagascar. In the last ten years to satisfy the demand the importation is increasing because the decrease in rice major staple food production. In parallel, the rice consumption in the urban areas and food selling for livelihood in the rural areas reduce due to the rising price. The issues in rice production are related to many problems, for example land access, complex value chain, limited application of improved technologies. For a support in that domain, some public and international agricultural development project has been led via technology improvement for production enhancement. The main objective of the present research is to evaluate the impact of these projects on the productivity of rice production in Madagascar and producers technology adoption based on profitability and food sufficiency. For analysis of the dynamics in the productivity of rice production in Madagascar, we construct a set of statistical models convolving time-varying parameters that express the changes in productivity and progress in technique of rice production. To estimate these time-varying parameters, Bayesian methods based on the smoothness prior approach are applied. The estimated results are also analyzed correspondingly with current situation of Madagascar.

## **Impacts of Exchange program attendance on learning performance in higher education: An Empirical Study**

<sup>1\*</sup>Dr. Ricky Y. K. Chan, <sup>2</sup>Dr. Jennifer Lai

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**Keywords:** Exchange program, Learning, Higher Education

Amidst universities continued pursuit of internationalization throughout the past decades, opportunities to attend exchange programs have become increasingly abundant in higher education (Yemini, 2014). Recent research has revealed that exchange program attendance (EPA) positively influences students learning outcomes, enhances student engagement and their overall satisfaction (Ramsey & Lorenz, 2016). Notwithstanding the reported direct positive influence of EPA on learning experience or performance (LP), little research attention has been paid to the exact mechanism or process underlying this influence. For instance, as EPA could enhance students appreciation of and adaptation to different cultures, it would have an immediate impact on the development of their cultural intelligence (CI), i.e., capability to function and manage effectively in culturally diverse settings (Ang et al., 2007). This capability may, in turn, enable them to perform better when they return to their home institutions where the study environment is also increasingly internationalized (in terms of student mix and curriculum design) under the wave of continued globalization. This suggests that CI may indeed mediate the positive influence of EPA on LP. Despite the plausibility of this inference, prior research has not taken CI into account when examining the relationship between EPA and LP.

## **Visitors Attachment To Tourist Places in Manama, Bahrain. Towards Urban Tourism Regeneration**

<sup>1\*</sup> Amine Moulay

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**Keywords:** Urban Tourism, Place Attachment, Urban Regeneration, Manama.

The role of urban tourism to enhance the growth of tourism in cities received a disproportionately small amount of attention by the related parties. Hence, under the crucial strategy to preserve the long-term growth potential of the Kingdom of Bahrain, and within the context of urban regeneration, the present research aims to investigate visitors attachment to historical tourist places in the capital city of Bahrain, Manama. Indeed, although the city of Manama plays a pivotal role in the development and growth of the national tourism industry, much more needs to be done to enhance the growth of tourism in the city. The research findings are based on a pilot study using a questionnaire survey and conducted with 80 visitors in tourist attraction areas in the city of Manama. Results indicate that both domestic and international visitors have a fairly strong emotional and functional attachment to the historical sites. However, in term of urban regeneration, domestic visitors highlighted the lack of social and cultural events around the historical sites, while international visitors pointed out the lack of pedestrian and cycling facilities around the sites which decrease their attractiveness. The findings highlight the crucial role of place attachment attributes to inform responsive and inclusive urban regeneration for enhanced urban tourism. Furthermore, it helps to encourage the provision of a conducive environment, enabling the tourism sector to grow. The central idea is that successful urban tourism regeneration should transcend the physical aspect of place to the psychological aspect through the place attachment concept.

## Free Cash Flow Valuation: Pedagogical and Practical Implications

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**Keywords:** Free Cash Flow, Pedagogical, Implications

The focus of this paper is to present the comprehensive Free Cash Flow (FCF) valuation for an entire corporation and common equity based on SEC Form 10-K and Form 10-Q submitted by publicly traded companies. After reviewing the standard pedagogical methodology, we present a more practical approach and make available for download the calculations for 42 companies. We posit that if FCF is defined as cash available to be distributed to investors, all investments a firm undertakes must be included, not only capital expenditures. Our comprehensive calculation is completely consistent with the definition provided by Jensen (1986), as all business investment expenditures on projects must be incorporated. We first examine the typical FCF methods in fundamentals of finance and valuation textbooks. We would not be able to undertake the comprehensive FCF calculations for valuing a company, as the actual calculations in practice are more complex. The typical corporation is providing FCF information as a performance metric while we are focusing on valuation. In our sample, we find that there are no firms that calculate FCF according to what we propose in this paper. We then examine FCF calculations undertaken by three internet-based financial data providers that are readily available. These calculations are useful in showing various aspects of available cash flow. However, these measures are not consistent with the comprehensive definition of FCF developed in this paper that will be used for valuation purposes. This paper fills a gap between these FCF calculations by providing a comprehensive free cash flow calculations for valuation purposes. The single most important point of our paper is that we include all the business investments a firm undertakes, whereas every other source includes only some of a firms investments, usually subtracting out only capital expenditures.

# The Evolution, Dynamics and Economic [Social] Impact of Technological Diffusion; Evidence from Nigeria Internet/Mobile Banking System

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**Keywords:** Diffusion, Economic-Impact, Mobile-Banking, Productivity, Technology

The evolution and diffusion of technology in the world financial services has simplified financial transactions, saved cost and guaranteed timeliness of funds for use in domestic as well as international markets. The social and economic impact of these on the productivity of the financial services industries cannot be overemphasized especially for developing countries. In this study, we will investigate the dynamics and economic impact of diffusion of mobile/internet banking and other bank technologies on the productivity of the Nigeria banking system, and the social consequences on end users/adopters. This study is informed by the dearth of literature on this topical issue. The purpose of our study is threefold; (1) to evaluate qualitatively and quantitatively the economic impact of mobile banking on the productivity of banks and end-users, (2) to analyze the phases of these technological developments with a view to understanding the timeline of the saturation point, and (3) to empirically study the dynamics of technological learning in mobile banking system in Nigeria. To achieve these, the non-parametric DEA Malmquist productivity index and the s-curve/learning curve methodologies will be used to analyze the input-output data. This study combines survey data and data from relevant authorities on financial transactions via mobile/internet banking and other bank technologies. This study is expected to provide empirical evidence on how mobile banking has revolutionized payment system among adopters and businesses in Nigeria, fill the literature gap and provide policy implication on safe and best practices for the future growing generation of new adopters.



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***TRACK B***

***ENGINEERING, TECHNOLOGY & APPLIED SCIENCES***



## Issues in Memory Management for Emerging High-Performance Storage

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**Keywords:** Memory Management, Buffer Cache, High Performance Storage, Hard Disk, Caching

With the wide speed gap between memory and storage, caching techniques have been adopted in memory management systems. By maintaining the requested data in memory, subsequent requests can be served without re-accessing slow storage media. Recently, high performance storage media, which is called storage-class memory, have emerged, and one may wonder if legacy memory management policies will be still efficient for these storage media. This paper discusses the issues that the traditional memory management techniques such as buffer cache will be still efficient with high performance storage media. We argue that memory management techniques appropriate for such storage media is necessary as the performance gap between memory and storage is narrow, but caching is still necessary.



## High Precision Location Tracking Technology in IR4.0

<sup>1\*</sup>Alvin Ting, <sup>2</sup>David Chieng

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**Keywords:** High Precision Tracking, Ultra-Wideband, Industry 4.0, Internet of Things

The ceaseless food scandals that happened in recent years have increased the consumers risk perceptions of foods and destroyed their trust to food providers. Consumers perception of food safety is much less satisfaction than expected, consumers are exposed to food safety vulnerability, finally there will be consumer protest, consumer web connection, and consumer boycott behavior. Vulnerability is a broad concept with wide-ranging applicability; however, the issue of food safe vulnerability has not yet been addressed. The study was to identify the attributes of critical food safety vulnerability in Taiwan. A total number of 160 valid survey samples was analyzed by using the analytical methods of Importance-Performance Analysis. It looks at two dimensions of consumers response to food safety, moreover examines both how well a factor contributes to a given goal as well as how important that factor is to the consumers. By understanding both the importance and performance of a given factor, the managers can discover where they are succeeding and where they need to improve in food safety. In the era of Industry 4.0 where factory efficiency is highly desired, knowledge about the position of the objects like tools, materials and employee is indefensible for improving the processes and reducing idle times within the Smart Factory. The Smart Factory requires the real-time collection, distribution and access of manufacturing relevant information anytime and anywhere. Indoor positioning systems are capable of tracking the objects such as assets or people in real time and play a vital role. However, it is not easy to deploy such system in factory due to the obstacles and challenging environment. This paper shares the real experience of deploying Ultra-wideband (UWB) indoor positioning system in a manufacturing factory. The positioning system contains UWB anchors, tags, backend system and frontend GUI. The deployment challenges and methods to overcome the challenges in factory environments is discussed. Techniques to improve accuracy such as implementing Kalman Filter, best practice of wearing tag as well as battery life consideration is also shared. Generally, a solution of providing indoor positioning in a smart factory is shared.

## Applications of Customised Screen Sharing Platform

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**Keywords:** Wireless Presentation, Screen Sharing, Screen Mirroring, Content Distribution.

Screen sharing or screen mirroring technology enables one to seamlessly cast the screen of one source device such as smartphone or laptop, onto another target display device such as TV or projector. While it is generally used for projecting content for the purpose of infotainment as in automobile, or for meeting as in office, there are other interesting usages of such technology such as for managing showcase displays and for large-scale content distribution. In this paper, we describe a customised version of screen sharing platform called Seamless Presentation (SP). The core engine of SP is wireless screen mirroring technology with web-based screenshots distribution. Results have shown that SP can help support the development and deployment of applications with different requirements which involve utilisation and management of screen content.

## **Factors Affecting to Long-Term Relationship of Outsourcing: A Case Study of Thailand**

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**Keywords:** Outsourcing, Outsourcing performance, Outsourcing long-term relationship, Thailand

Outsourcing is very important for organizations to achieve better performance, such as cost reduction, core activities, and knowledge acquisition. Thailand is as known worldwide as a key outsourcing service provider. To know factors affects to long-term relationship outsourcing are essential for the business continuities of Business Process Outsourcing (BPO) providers in Thailand. Based on literature review, this research proposed a model suggested that cooperation, control and improvement can affect performance and then further affects outsourcing long-term relationship. Using a data set collected from 322 questionnaire surveys via e-mailed, and 200 questionnaire surveys sent to personal to test the proposed hypotheses from June 1 to June 30, 2019. As a result, 219 respondents were used for data analysis (41.95 percent). To confirm our hypotheses, we use partial least squares (PLS) a variance-based Structural Equation Modeling (SEM) approach. The results showed that at 0.05 significance level, cooperation has a positive effect on the control. Moreover, cooperation and improvement have a positive effect on the performance and performance has a positive effect to outsourcing long-term relationship. This study provides some suggestions to outsourcing suppliers in Thailand to maintain or to extend their outsourcing relationships with their current customers.

## ***UP COMING EVENTS***

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

<https://consortium-et.com/upcoming-events/>

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# MISSION

*To disseminate knowledge and help scholars, practitioners and administrators to promote the high quality research.*

