

2019



2019

International
Conference on Business,
Economics and Management
in the Age of Intelligence

2019 ICBEM

Proceedings

June 3-5, 2019

Taipei, Taiwan

Editors

Fen-May Liou

Kuei-Hsien Chen



College of Business Management
Chihlee University of Technology



Institute of Business and Management,
National Yang Ming Chiao Tung University

2019 ICBEM

Conference Proceedings

2019 International Conference on Business, Economics and
Management in the Age of Intelligence (2019 ICBEM)

Date: June 3-5, 2019, Taipei, Taiwan

Editors
Fen-May Liou
Kuei-Hsien Chen

Organizer

Chihlee University of Technology

Co-Organizer

Institute of Business & Management, National Chiao Tung University

Journal of Management and Systems

Corporate Management Review

Committee

Organizing Committee

Professor Fen-May Liou, Ph.D.

Professor Chieh-Peng Lin, Ph.D.

Professor Mu-Chen Chen, Ph.D.

Professor Kuo-Chien Chang, Ph.D.

Associate Professor Mei-Yu Yang, Ph.D.

Associate Professor Hui-Ming Teng

Associate Professor Chia-Wen Chang, Ph.D.

Associate Professor Chi-Feng Lo, Ph.D.

Associate Professor Fu-Chiang Chen, Ph.D.

Assistant Professor Kuei-Hsien Chen, Ph.D.

Conference Secretariat

Professor Jin-Feng Uen, Ph.D.

Professor Jin-Li Hu, Ph.D.

Professor Cherng G. Ding, Ph.D.

Professor Hwei-An Tsai, Ph.D.

Associate Professor Jin-Su Kang, Ph.D.

Assistant Professor Yiing-Luen Sim, Ph.D.

Assistant Professor Yin-Ying Chien, Ph.D.

Assistant Professor Chih-Huei Ko, Ph.D.

Assistant Professor Hsiu-Li Lee, Ph.D.

Assistant Professor Ro-Land Gau, Ph.D.

Lecturer Joseph Seydewitz, Master

CONTENTS

SCHEDULE - DAILY PLANNER	1
Keynote Speech	9
The Connection between Perceived Organizational Support and Innovative Work Behavior among Generation Y Workers in Vietnam: Intrinsic Motivation as a Mediator.....	28
A Pilot Test on the Validity and Reliability of measures for Job Embeddedness and Employee Performance	29
Finding a Job on Facebook: The moderating effect of social media use on job search self-efficacy and job search behavior among Generation Y.....	30
The Effect of Employee Competence	31
Do Compensation and Training Matter toward Employee outcomes? The Banking Sector of Haiti.....	32
Analysis of Quantitative Easing’s Effect on Volatility in the U.S. Stock Market.....	33
Market sentiment and heterogeneous fundamentalists in an evolutionary financial market model.....	34
Financial Performance and Financial Decisions: Dynamic Network DEA Approach	35
Exploring the Performance and Competitiveness of Vietnam Port Industry	36
The Impact of Innovative Capability on the Performance of Taiwanese Semiconductor Industry	37
The Durability and Effects of Terminating Young Generations’ Negative Stereotype to Emerging Market- The Formation Paths of Global Minds Derived from the Effects of Introducing Africa Thematic Programs to Improve Young Generation’s Stereotype to the Emerging Africa Market	38
To Share or Not to Share: Assessing Knowledge Sharing from Social Capital and Hypercompetitive Perspectives.....	39
Online Group Package Tour Advertising: Customizing the Senior-Tourist-Oriented Webpage.....	40
Creative Workers Copyright and Consumer Protection On the Internet	41
Manufacturing Productivity in China, South Korea and Taiwan and the Effect on Robotics Factor	42
Assessing the Impact of International Standards on Corporate Social Responsibility: Factor Model Approach.....	43
The Role of Experiential Value in Predicting University Students' Bicycle Usage Behavior: Extending the Theory of Planned Behavior	44
The Research of Antecedents and Outcomes of Occupational Safety and Health in Hospitals.....	45
ASEAN+3 Banknote Recognition System (A+3BRS).....	46
A Study on Needs, Motivations, and Urge to Post Online Reviews	47
The nexus between political stability, corruption control and tax level with illicit financial flows: Empirical Evidence from African countries	48
Secure and Efficient Authentication Scheme for Internet banking	49

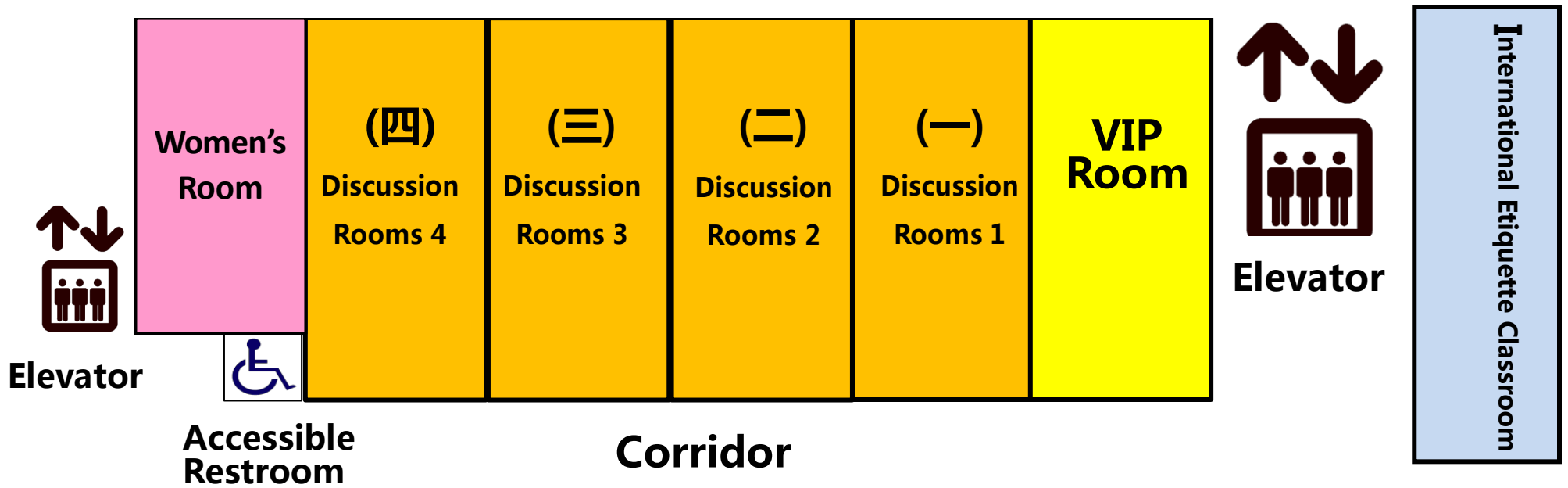
The Supervision of the Bank Capital: An Analysis of Taiwan Financial Holding Companies	50
Developing Team Performance: The Double-Edged Nature of Justice	51
The Learning Management System for Web-Based Peer Assessment	52
Herd Behavior in China’s Housing Market: Evidence from the Four Tier City Markets	53
Contributing Factors of Ethical Work Climate in the Public Sector: The Case of Solomon Islands	54
Loyalty to Supervisor or Organizational Commitment: Measuring Employee Job satisfaction and Job Performance	55
The Decision Making for Tourism to Ladchado Market, Phak Hai Disrict, Ayutthaya Province.....	56
Students’ Satisfaction with Home Food and School Food – A Comparison and Confirmation Study in Japan.....	57
The Survey of Predictive Maintenance and Cloud Computing.....	58
An imperfect quality economic order quantity under progressive payment scheme	59
Analysis of executive turnover and stock price changes	60
Abusive Supervision and Supervisor-directed Deviance: The Mediating Role of Revenge Thoughts and the Moderating Role of Negative Reciprocity Beliefs and Social Undermining Norms toward Supervisors	61
The Moderating Effect of Supervisors’ Positive Communication and Hopeful Leadership on Employee Responses to Psychological Contract Breach.....	62
Aging population and financial services: A preliminary evidence	63
Examining the Strength Difference of Individual Traits on Training Goal Settings and Training Motivation.	64
An Investigation of the Incremental Influence of Four Organizational Commitments on Two Strains, Job Satisfaction, and Intention to Leave	65
A Hybrid AI Approach for Improving SCM Customer Demand Prediction	66
Investigation of EaaS-related studies and Kahoot users’ learning experiences and preferences	67
Examining ambidextrous operation in Taiwan semiconductor industry in 2010s....	68
A Trend Analysis of the Foreign Workers in Taiwan.....	69
Strategic Study of Luxury Goods in the Era of Omni-Channel Retailing.....	70
What do Senior Tourists Like: Designing the Eye-catching Online Advertisement for Senior GPT	71
Impact of Compensation, Benefits and Promotion to the Organizational Commitment of Millennial Employees in the Hospitality Industry	72
Information Technology Innovation and Bank Performance:Using FinTech as an Example	73
Historically inherent institutional logics matters: why do firms respond differently to delegitimation event like irregularly financial restatement.....	74

2019 International Conference on Business, Economics and Management in the Age of Intelligence

SCHEDULE - DAILY PLANNER

Activities Time	6/3 Monday	6/4 Tuesday	6/5 Wednesday
9:00~09:30 (30 minutes)		Registration (8 th Floors of General Teaching Building)	City Tour
09:30-09:45 (15 minutes)		Opening Ceremony (8 th Floors of International Conference Hall)	
09:45-10:30 (45 minutes)		Keynote Speech Dr. Yang Chin Chow The Challenge of Quality Management in the AI Age (8 th Floors of International Conference Hall)	
10:30-10:50 (20 minutes)		Coffee Break	
10:50-12:10 (80 minutes)		Session I (8 th Floors of Discussion R1,R2,R3)	
12:10-14:00 (110 minutes)		Lunch	
14:00-16:00 (120 minutes)	Registration (8 th Floors of General Teaching Building)	Session II (8 th Floors of Discussion R1,R2,R3)	
16:00-16:20 (20 minutes)		Coffee Break	
16:20-16:40 (20 minutes)		Best Paper Award (8 th Floors of International Conference Hall)	

Deployment layout



(Venue : 8th Floors of General Teaching Building)

2019 International Conference on Business, Economics and Management in the Age of Intelligence
Session Schedule (R1)

Date: 6/4	Tuesday	Time: 10:50-12:10	Session Room: Room 1
Session Topic: Human Resource Management			
Session Chairs:	1. Albert Barreda	2. Kuei-Hsien Chen	
1.	Paper Title: The Connection between Perceived Organizational Support and Innovative Work Behavior among Generation Y Workers in Vietnam: Intrinsic Motivation as a Mediator Author(s): Mai Pham, Yi-Chun Lin		Paper ID:1062
2.	Paper Title: A pilot test on the validity and reliability of measures for Job Embeddedness and Employee Performance. Author(s): Jose Salomon Nazar Villalta, Chu-Chen Rosa Yeh		Paper ID:1082
3.	Paper Title: Finding a Job on Facebook: The moderating effect of social media use on job search self-efficacy and job search behavior among Generation Y Author(s): Yu-No Ho, Yi-Chun Lin		Paper ID:1083
4.	Paper Title: The Effect of Employee Competence Author(s): Yoshimasa (Nancy) Kageyama, Albert Barreda		Paper ID:1040
5.	Paper Title: Do Compensation and Training Matter toward Employee outcomes? The Banking Sector of Haiti Author(s): Melissa Guillaume, Chu-Chen Rosa Yeh		Paper ID:1087

2019 International Conference on Business, Economics and Management in the Age of Intelligence
Session Schedule (R2)

Date: 6/4 Tuesday	Time: 10:50-12:10	Session Room: Room 2
Session Topic: Finance		
Session Chairs:	1. Nicolò Pecora	2. Feng-Yi Lin
1.	Paper Title: Analysis of Quantitative Easings Effect on Volatility in the U.S. Stock Market Author(s): Jason Stone, Iris Hai Yen Chang	Paper ID: 1081
2.	Paper Title: Market sentiment and heterogeneous fundamentalists in an evolutionary financial market model Author(s): Fausto Cavalli, Ahmad Naimzada, Nicolò Pecora, Marina Pireddu	Paper ID: 1037
3.	Paper Title: Financial Performance and Financial Decisions: Dynamic Network DEA Approach Author(s): Kuo-Cheng Kuo, Wen-Min Lu, Dinh Thanh Nhan	Paper ID: 1036
4.	Paper Title: Historically inherent institutional logics matters: why do firms respond differently to delegitimation event like irregularly financial restatement Author(s): Shih-Chieh Kuo, Hui-Chun Huang, Thijs A. Velema	Paper ID: 1061

2019 International Conference on Business, Economics and Management in the Age of Intelligence
Session Schedule (R3)

Date: 6/4	Tuesday	Time: 10:50-12:10	Session Room: Room 3
Session Topic: Industry Analysis			
Session Chairs:	1. Yosef Daryanto	2. Hui-Ming Teng	
1.	Paper Title: Exploring the Performance and Competitiveness of Vietnam Port Industry Author(s): Kuo-Cheng Kuo, Wen-Min Lu, Minh-Hieu Le		Paper ID: 1035
2.	Paper Title: The Impact of Innovative Capability on the Performance of Taiwanese Semiconductor Industry Author(s): Grace Tzu-Yi Chang, Huei-Ting Tu, Kuo-Cheng Kuo		Paper ID: 1068
3.	Paper Title: The Durability and Effects of Terminating Young Generations' Negative Stereotype to Emerging Market- The Formation Paths of Global Minds Derived from the Effects of Introducing Africa Thematic Programs to Improve Young Generation's Stereotype to the Emerging Africa Market Author(s): Kuo-Huang Huang		Paper ID: 1074
4.	Paper Title: To Share or Not to Share: Assessing Knowledge Sharing from Social Capital and Hypercompetitive Perspectives Author(s): Tse-Yao Huang, Chieh-Peng Lin, Mei-Liang Chen		Paper ID: 1088

2019 International Conference on Business, Economics and Management in the Age of Intelligence
Session Schedule (R1)

Date: 6/4	Tuesday	Time: 14:00-16:00	Session Room: Room 1
Session Topic: Corporate Management			
Session Chairs:	1. Roland Gau	2. Chieh-Peng Lin	
1.	Paper Title: Online Group Package Tour Advertising: Customizing the Senior-Tourist-Oriented Webpage Author(s): Kuo-Ching Wang, Ruey-Luen Chen, Wen-Yu Chen, Junyi Zhang, Yu-Lung Sung		Paper ID: 1055
2.	Paper Title: Creative Workers Copyright and Consumer Protection on the Internet Author(s): Tai-Chih Fan		Paper ID: 1056
3.	Paper Title: Manufacturing Productivity in China, South Korea and Taiwan and the Effect on Robotics Factor Author(s): Kuo-Cheng Kuo, Wen-Min Lu, Nguyen-Dinh Tam		Paper ID: 1039
4.	Paper Title: Assessing the Impact of International Standards on Corporate Social Responsibility: Factor Model Approach Author(s): Chih-Hung Chen, Chiu-Ming Hsiao		Paper ID: 1048
5.	Paper Title: The Role of Experiential Value in Predicting University Students' Bicycle Usage Behavior: Extending the Theory of Planned Behavior Author(s): Chih-Cheng Lin, Cheng-Hao Lai, Yu-Huan Shen, Chung-Long Yu		Paper ID: 1050
6.	Paper Title: The Research of Antecedents and Outcomes of Occupational Safety and Health in Hospitals Author(s): Chung-Hung Tsai		Paper ID: 1051

2019 International Conference on Business, Economics and Management in the Age of Intelligence
Session Schedule (R2)

Date: 6/4	Tuesday	Time: 14:00-16:00	Session Room: Room 2
Session Topic: Economic			
Session Chairs:	1. Aye Mengistu Alemu	2. Chien-Hua Tsai	
1.	Paper Title: ASEAN+3 Banknote Recognition System Author(s): Chomtip pornpanomchai, Kanthakron Banchakulchai, Nattawat Charoenrungsiri, Charunthorn Juntanun		Paper ID: 1011
2.	Paper Title: A Study on Needs, Motivations, and Urge to Post Online Reviews Author(s): Li-Chen Yu, Chia-Lin Hsu		Paper ID: 1054
3.	Paper Title: The nexus between political stability, corruption control and tax level with illicit financial flows Empirical Evidence from African countries Author(s): Aye Mengistu Alemu		Paper ID: 1043
4.	Paper Title: Secure and Efficient Authentication Scheme for Internet banking Author(s): Chien-Hua Tsai		Paper ID: 1086
5.	Paper Title: The Supervision of the Bank Capital: An Analysis of Taiwan Financial Holding Companies Author(s): Yi-Fang Chung		Paper ID: 1033
6.	Paper Title: Developing Team Performance: The Double-Edged Nature of Justice Author(s): Jui-Yu Chen, Mei-Liang Chen, Chieh-Peng Lin		Paper ID: 1089

Session Schedule (R3)

Date: 6/4	Tuesday	Time: 14:00-16:00	Session Room: Room 3
Session Topic: Management System			
Session Chairs:	1. Ratirath Na Songkhla	2. Ying-Chan Tang	
1.	Paper Title: The Learning Management System for Web-Based Peer Assessment Author(s): Chin-Huey Chang, Ming-Hsiu Tsai		Paper ID: 1075
2.	Paper Title: Herd Behavior in China's Housing Market: Evidence from the Four Tier City Markets Author(s): Yi-Chang Chen, Housen Wang, Yixuan Fu, Xue Lin, Mingqi Li		Paper ID: 1085
3.	Paper Title: Contributing Factors of Ethical Work Climate in the Public Sector: The Case of Solomon Islands Author(s): Hellen Haapisi, C. Rosa Yeh		Paper ID: 1084
4.	Paper Title: Loyalty to Supervisor or Organizational Commitment: Measuring Employee Job satisfaction and Job Performance Author(s): Chen-Chieh Chang, Yan-Chiun Peng, Liang-Ju Chen		Paper ID: 1049
5.	Paper Title: The Decision Making for Tourism to Ladchado Market , Phak Hai District Ayutthaya Province Author(s): Ratirath Na Songkhla		Paper ID: 1077
6.	Paper Title: Students' Satisfaction with Home Food and School Food – A Comparison and Confirmation Study in Japan Author(s): Bình Nghiệm-Phú		Paper ID: 1042

Keynote Speech

The Challenge of Quality Management in the AI Age

Speaker : Ching-Chow Yang
(President, Chinese Society for Quality)

2019 International Conference on Business, Economics
and Management in the Age of Intelligence



The Challenge of Quality Management in the AI Age

Ching-Chow Yang

President, Chinese Society for Quality




Contents

- 1 AI is coming
- 2 Collaboration between people and AI
- 3 Quality engineers' AI competence
- 4 I-P-O analysis & DFSS
- 5 Automatic quality control
- 6 5 levels of automatic quality control
- 7 The challenge of AI quality engineer




The fourth industrial revolution


First industrial revolution
Mechanical production using steam engines as the power (1780~)




Second industrial revolution
Mass production by automatic machines using electric power (1870~)

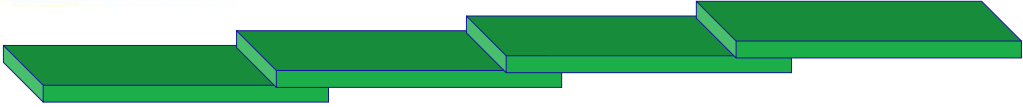



Third industrial revolution
Production automation using electronic and information technology (1970~)



Fourth industrial revolution
Smart devices by integrating IoTs and cyber-physics system (2010~)



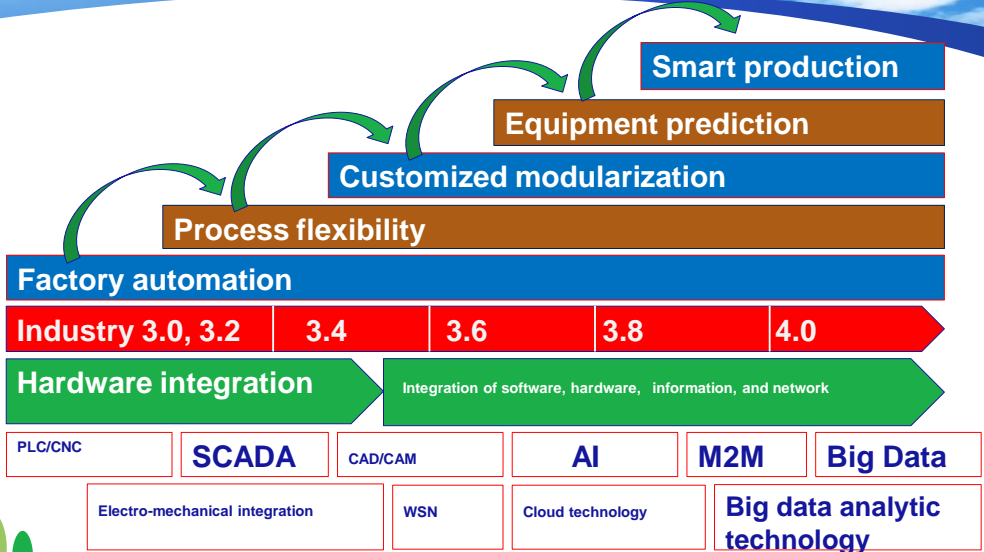





Prof. Ching-Chow Yang

3

Toward industry 4.0 with AI



The diagram illustrates the progression from Industry 3.0 to 4.0. It features a central horizontal bar with segments for Industry 3.0, 3.2, 3.4, 3.6, 3.8, and 4.0. Above this bar, several key concepts are shown in stacked boxes, connected by upward-curving arrows: Process flexibility, Customized modularization, Equipment prediction, and Smart production. Below the main bar, a large green arrow labeled 'Hardware integration' points right, with the text 'Integration of software, hardware, information, and network' inside it. At the bottom, several technology boxes are arranged in two rows: PLC/CNC, SCADA, CAD/CAM, AI, M2M, Big Data in the first row; and Electro-mechanical integration, WSN, Cloud technology, Big data analytic technology in the second row.



Based on 資策會MIC, 2016年1月, 經濟日報105, 5, 15
Prof. Ching-Chow Yang

4

Toward industry 4.0 with AI

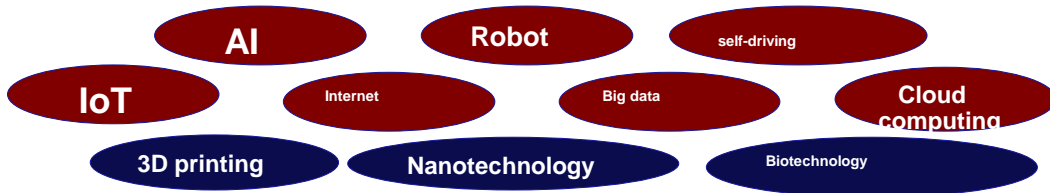
❖ Smart production (3.8-4.0)

The machines automatically collect, analyze, and predict the information, and then make decisions immediately. The machines can also learn by itself, and communicate each other (M2M). They can also link to logistics, production management, and order management.



Entering the industry 4.0 age

❖ **Many new and breakthrough technologies are constantly emerging.**



❖ The fourth industrial revolution is based on the digital revolution. It integrates many technologies. These technologies, especially artificial intelligence, will bring unprecedented changes on the economic, industries, business, management and life.



Klaus Schwab: The Fourth Industrial Revolution, 2016 by World Economic Forum



AI is coming

In the past 3 decades, manufacturing has been focused on scale and standardization. **In the next 30 years, manufacturing will depend on the intelligence, and can be personalized and customized; the next great revolution will be the revolution of IoT; The future machine is not using electricity, but using data. The AI and smart machine are born.**

Jack Ma



这样看清楚多了!

CSO Prof. Ching-Chow Yang 7

What is artificial intelligence

Artificial Intelligence

Deep learning + Big data
Kai-Fu Lee : AI is coming

IoT

Computer program

Big data computing

Machine learning

Internet

CSO Prof. Ching-Chow Yang 8

The capability of AI learning

IBM CEO Ginni Rometty proposes 'Watson's Law': AI in everything

Moore's law

The observation that the number of transistors in a dense IC doubles about every two years

Matcalfe's law

The effect of a telecommunications network is proportional to the square of the number of connected users of the system (n^2)

Watson's law

The capabilities of AI learning and big data computing are growing up with exponential speed.



The rapid rise of AI

「Smart machine」 that will play chess

1951

1962

1997

2016

Christopher S. **Strachey** was a British computer scientist. He was the first one to write a program to make the Pilot ACE play checkers.

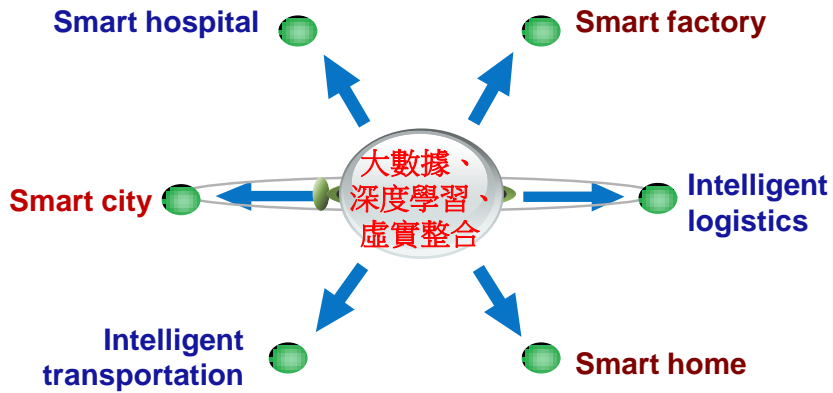
Arthur **Samuel** used a checker program to defeat a blind checker master. That time, the media and public thought the checkers program to be AI.

IBM developed a chess-playing computer Deep Blue to defeat the world's chess champion Garry **Kasparov**. The world thought that deep blue is AI.

AlphaGo is a program playing board game go developed by Google, it beat the world go champion **Sedol Lee** in Seoul, and then triggered a big wave of AI.



The applications and spread of AI



How company to respond the AI

The company must first understand the changes of current and future industry environment and business environment.

It is needed for company to clearly understand the AI technologies, and to plan the stages and steps of how to develop AI system.

The response ways

The company needs to plan the employees' new jobs and skills for adopting AI, and develop early education and training for employees.

Analyze the equipment and technology that the company needs to setup now and in the future, and establish its own core technology



Collaboration between people and AI

<p>Firms can achieve the significant performances when humans and machines work together. Through such collaborative intelligence, humans and AI actively enhance each other's complementary strengths</p>	<p>Companies must understand how humans can most effectively augment machines, how machines can enhance what humans do the best, and how to redesign business processes to support the partnership</p>
<p>Humans' strengths: the leadership, teamwork, creativity, thinking, conflict solving, social skills, and Long-term perspective</p>	<p>AI strengths: speed, scalability, quantitative capabilities, big data analysis, precise calculation, and amazing learning</p>

CSO Prof. Ching-Chow Yang 13

Collaboration between people and AI

People need to play three roles for AI operation

<p>Trainer : People (AI experts) teach the machines the learning algorithms that they can perform the work they're designed to do.</p>	<p>Interpreter : As AIs obtain some outcomes through processes, they require human experts in the field to explain these results to non-expert users</p>
<p>Sustainers : Employees (AI users) need the continual work to ensure that AI systems are functioning properly, safely, and responsibly.</p>	

CSO Prof. Ching-Chow Yang 14

The quality engineers' new roles

- ❖ **In the smart manufacturing during AI age, the traditional quality activities can't be used.**
 - The inspections of first piece and last piece of batches or morning and evening shifts.
 - Sampling inspection in the process.
 - Process quality control, and the usage of control chart.
 - Stop the machine to adjust the process parameters.
- ❖ **In the smart manufacturing during**
The main responsibility of
engineers is to ensure
machines can
which all
achieve the 100% good quality.



Prof. Ching-Chow Yang

15

The quality engineers' AI competence

- ❖ **Effectively use the I-P-O (Inputs-Process-Outputs) analysis tool, first to confirm**
 - The product functions, the quality measure items and standards (A).
 - The quality measure items and standards of the final products on the production line (B)
 - The quality measure items and each steps (C).
- ❖ **In principle, (B) will be achieved met, and then, (A) will be achieved.**
During the product development stage, the quality engineers need to check the linkage between all these quality items and standards.

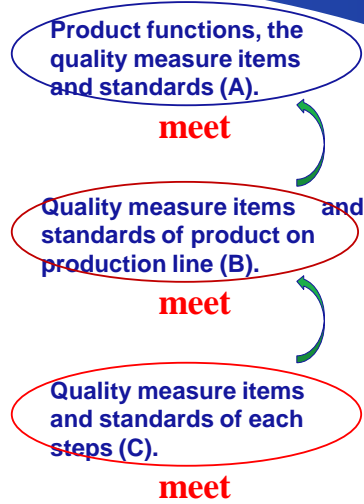
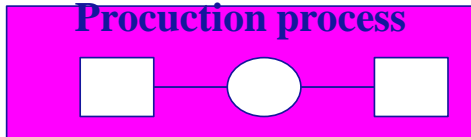


Prof. Ching-Chow Yang

16

Effective usage of I-P-O analysis

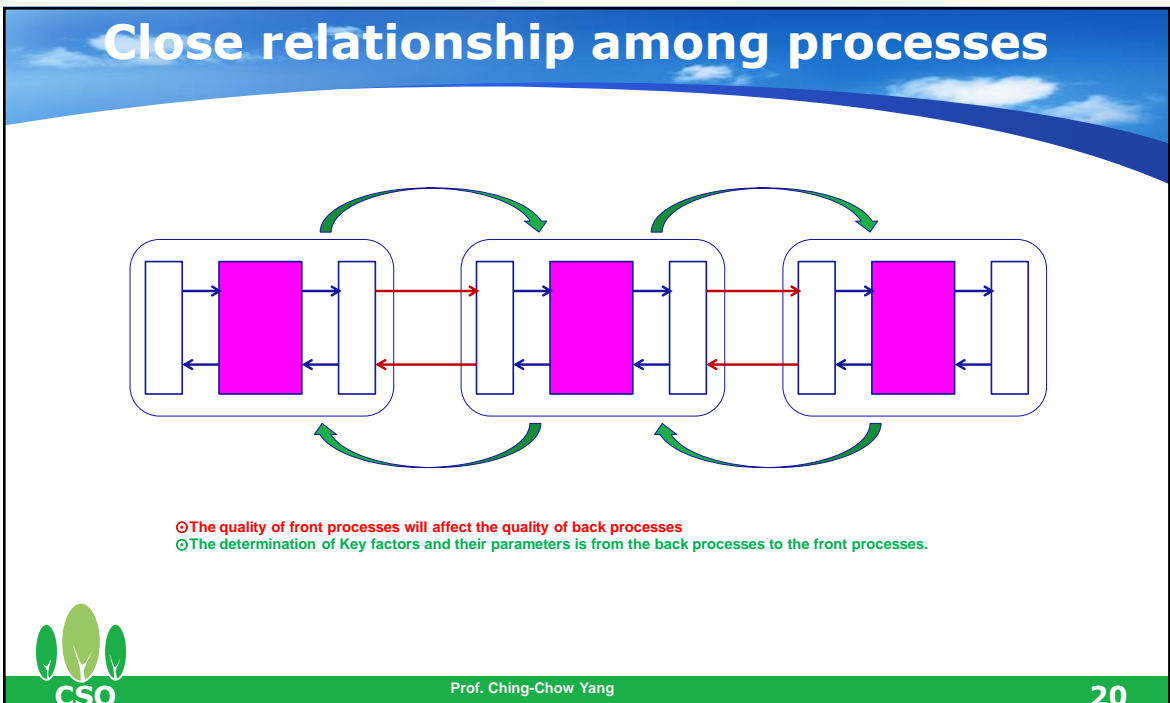
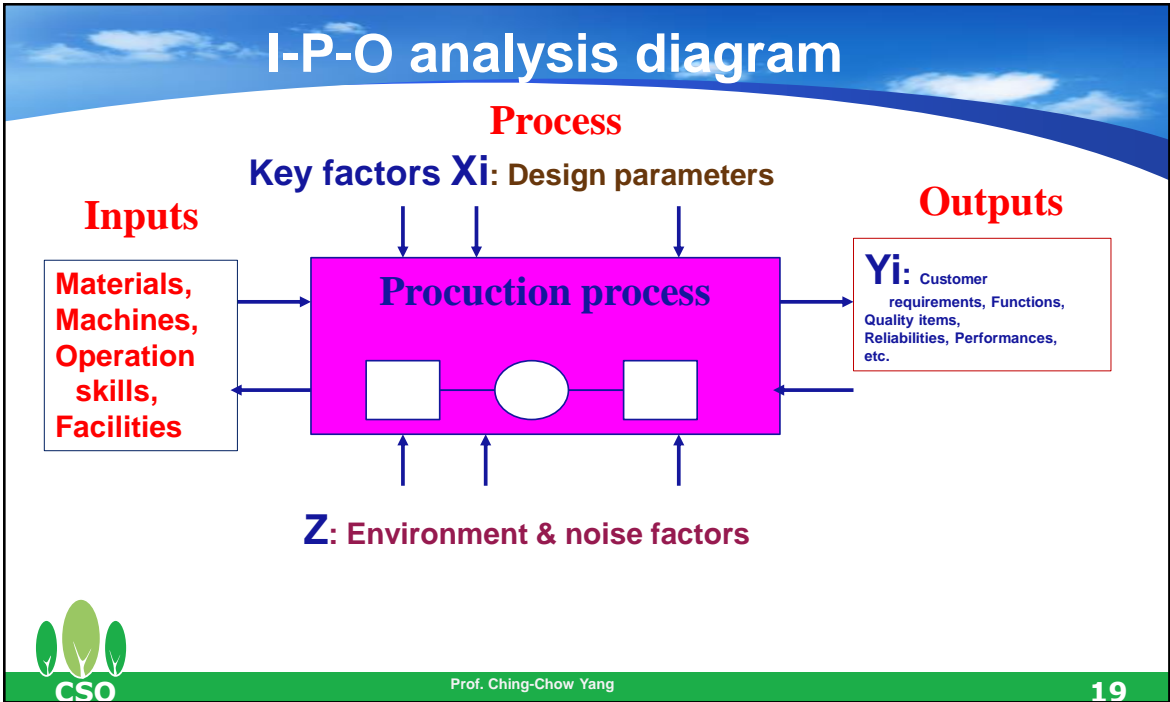
Customer requirements: functions; quality items; reliabilities; performances, etc.



The quality engineers' AI competence

If the linkage is confirmed, **the focus is on the processes of the production line.** The quality engineers can find out the key factors from the inputs and processes by using the I-P-O analyses.





The quality engineers' AI competence

It is a difficult work for engineers to find out the key factors. Usually the following methods can be used

The key factors that have been determined in the existing processes

Using the complete data on the production line for the comparison and analyses

Conducting DOE for possible influent factors, to discover the key influent factors

Finding key factors based on theory by referring professional papers



The quality engineers' AI competence

- ⊙ The next critical works for quality engineers is to **setup the precise parameters and specifications** on these key factors, and the production conditions.
- ⊙ In principle, while **these specifications and the production conditions are controlled very well**, then the good quality of product will be assured.

$$Y = f(X_1, X_2, \dots, X_k)$$

Y: process performance indexes (CTQ)

X_1, X_2, \dots, X_k : key factors

- ❖ **The big challenge is how to these parameters' production condition**



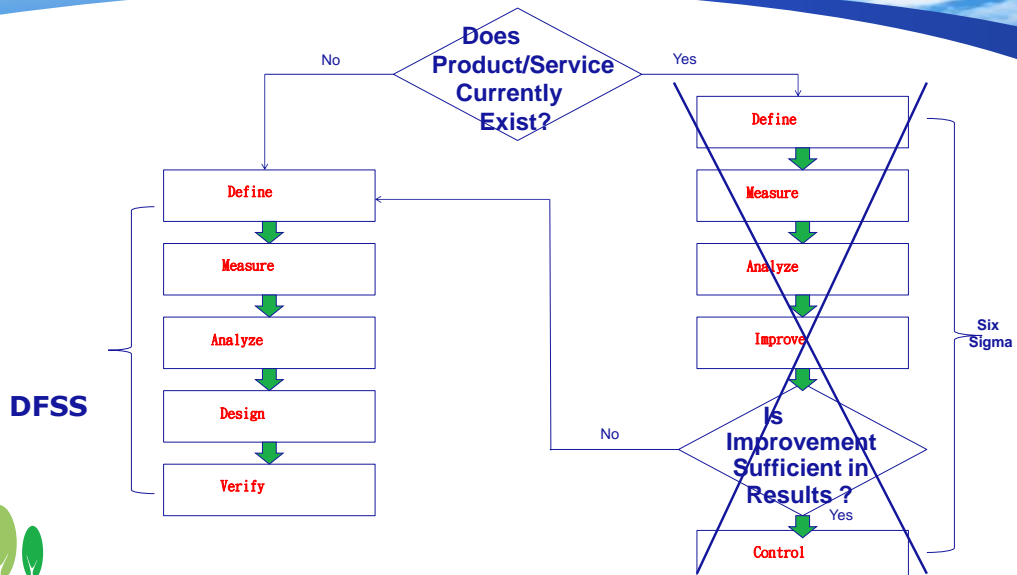
Quality control in smart manufacturing

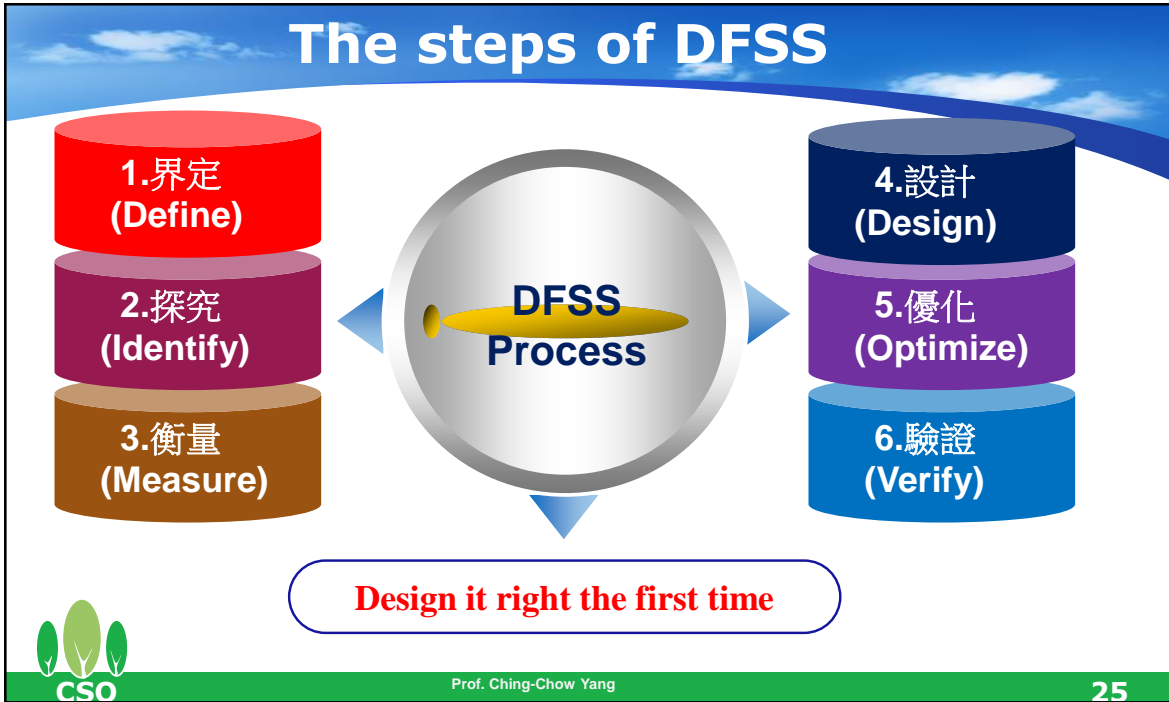
- ❖ Usually we use SPC, especially the control chart, to control the process quality. While the process is out of control, or quality problems are appeared, quality engineers will take improvement actions to reduce the problems.

In the AI age, it is impossible to do the SPC and improvement actions for the smart manufacturing. Thus, it is needed to eliminate all the problems appeared in the mass production during the design stages. The methodology DFSS is an effective tool for this objective.



Six-sigma & DFSS





Smart manufacturing

- ▲ In the smart manufacturing the machines can well control the parameters and production conditions by themselves during production.
- ▲ They also automatically collect and analyze the parameters' data, as some parameter emerges deviation, the machine can adjust it.
- They always control the parameters in an ideal situation.

It is entering the age of 「new manufacturing」 said by Jack Ma, which combines **AI**, **robotics**, **IoT**s, **big data analysis**, and even **internet** and **cloud computing**.

CSO

Prof. Ching-Chow Yang

26

Automatic quality control in IM

Intelligent manufacturing (IM) in AI age can do:

Automatic measure

Automatic analysis

Judgment & decision


Automatic adjustment

During production, the facilities can automatically measure or collect the actual values of all equipment parameters, and production conditions.

All measured data can be automatically connected to the controlled computer. The computer can organize and analyze the measured data.

Judging the analytic results to see if the input parameters, parameters or production conditions are well controlled, and make adjustment decisions to those are not well controlled.

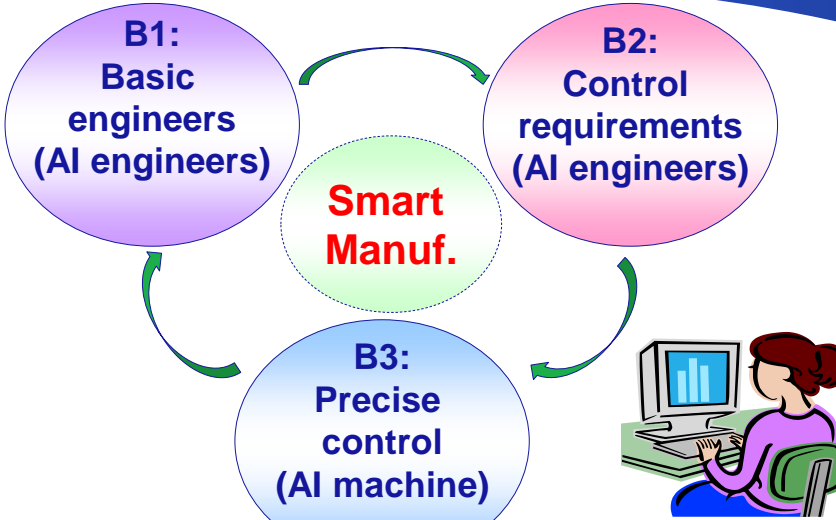
As machine's control system receives the adjustment decision, it immediately issues the adjusted command and automatically adjusts it to achieve the best production status.



Prof. Ching-Chow Yang


27

Automatic quality control in IM



```

graph TD
    B1((B1: Basic engineers  
(AI engineers))) --> B2((B2: Control requirements  
(AI engineers)))
    B2 --> B3((B3: Precise control  
(AI machine)))
    B3 --> B1
    SM((Smart Manuf.))
    B1 --- SM
    B2 --- SM
    B3 --- SM
    
```



Prof. Ching-Chow Yang

28

5 levels of automatic quality control

- ❖ **Level 1: Automatically collect data on production line**
The machine automatically collect the key factors' parameter values, and the related quality item data.
- ❖ **Level 2: Analyze the collected data**
The control system can organize and analyze the collected data, and obtain the values can be judged.
- ❖ **Level 3: Make judgement based on analytic results**
Compare the analytic results with the specifications and standards, and then make the judgement.
- ❖ **Level 4: Make decision according to judgements**
After the comparison, the control system make the adjustment decision on the factors to be improved.
- ❖ **Level 5: Machine automatically make adjustment**
According to adjustment decision, machines adjust the parameters, and let them within the specification.



Prof. Ching-Chow Yang

29

The actual situations in industry

Most of the automation can't even be called Level 1, which requires operator to measure the production parameters and quality values.

Many automatic machines with warning signals, when there is an abnormality, the engineer will adjust the machines. These machines near level 3.

Some precise machines can automatically record all the setting parameters. They can also be programmed to control the parameters. They are between Level 3 and Level 4.



Prof. Ching-Chow Yang

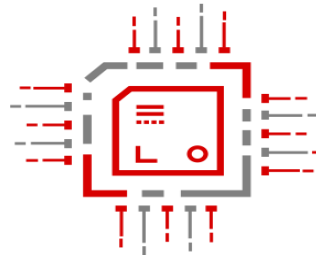
30

The actual situations in TSMC

TSMC uses big data and data mining to improve quality. Basically, the key factors of the machines are set very well, but the control of parameter specifications of key factors are not very accurate.

In principle, TSMC is close to Level 4 (including data mining). Since data is very complete, TSMC can use data mining to find key factors that are not optimally set and adjust their parameter values.

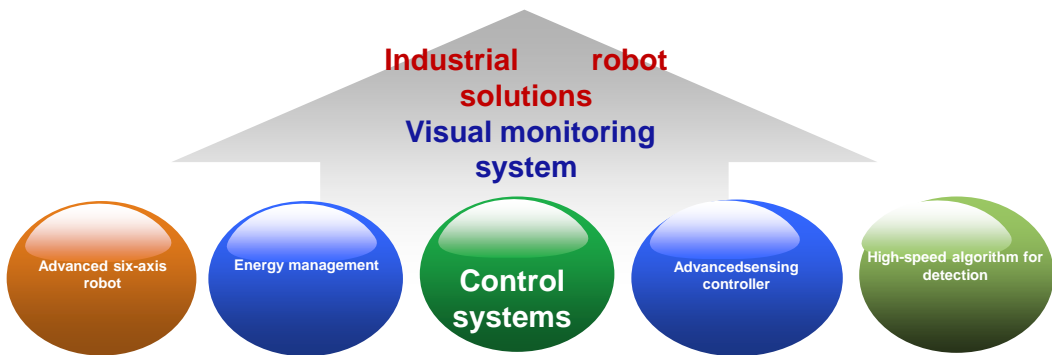
Basically, to achieve Level 5, it is needed to rely on AI, since if a firm wants to approach the level achieved by TSMC, it requires the machines constant self-learning. It still takes a long way to go and years of effort.



Delta smart manufacturing in Wu Jiang



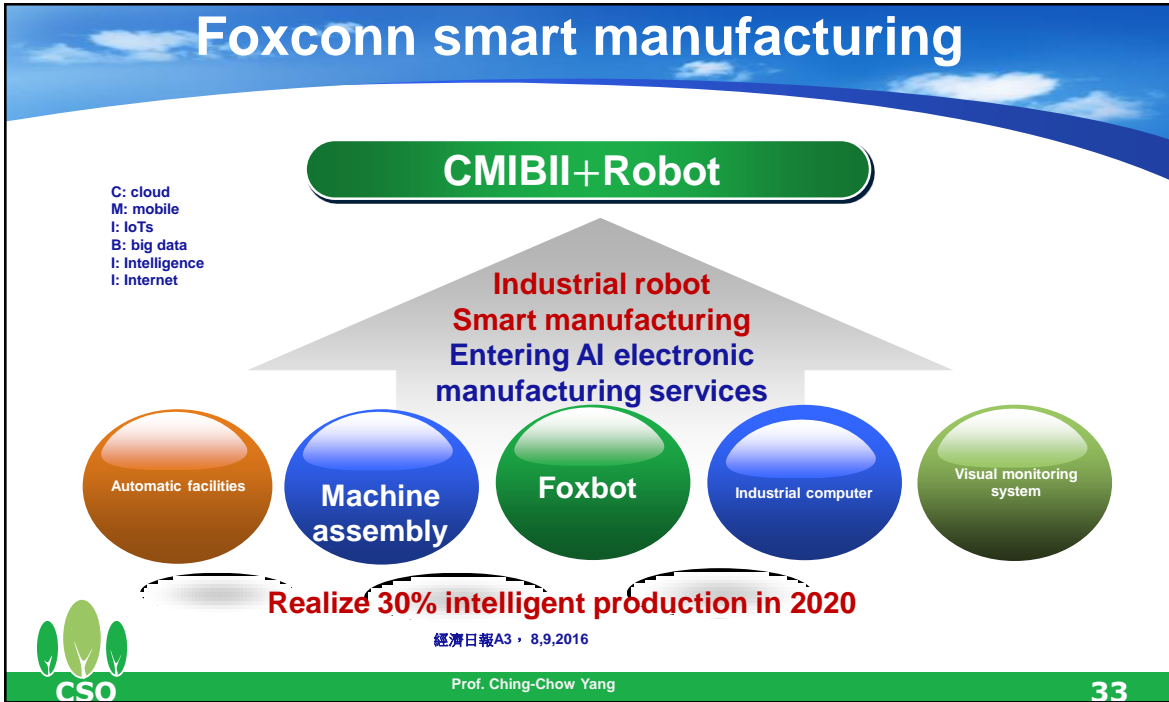
Smart production line



The number of operators will be reduced from 50 to 5

經濟日報A11 · 7,26,2016





Conclusion-the quality engineers' challenge

- The traditional quality control tools which are commonly used by quality engineers, such as seven QC tools, control chart, sampling, etc., may not be useful in the environment of AI smart manufacturing.
- Finding the key factors of the process and setting their precise parameters based on the I-P-O analysis are the important task for quality engineers, so **the quality engineers also need to understand the equipments, processes, and even having the professional experience and technique.**
- Quality engineers not only should be able to effective use the I-P-O analysis, DFSS method, but **also to be an AI experts, and they can write programs to control the machines and collaborate with the AI system and smart machines.**

CSO Prof. Ching-Chow Yang 34



Thank You !

chinchow@cycu.edu.tw



The Connection between Perceived Organizational Support and Innovative Work Behavior among Generation Y Workers in Vietnam: Intrinsic Motivation as a Mediator

Mai Pham^{1*}, Yi-Chun Lin²

¹ National Taiwan Normal University, pxbmai@gmail.com

² National Taiwan Normal University, lin.hrd@ntnu.edu.tw

Abstract

Nowadays, as the global market becomes more and more competitive, every organization wants their employees to produce as much innovative ideas as possible to gain advantages. Especially, Generation Y workers who are known as the most technology sophisticated generation ever quickly dominate the workforce. With distinctive characteristics, Generation Y workers need more empirical study to find out how we can manage and promote their full potential. Employers and supervisors have been trying to find different strategies and methods to encourage their Generation Y employees to be more active and have the confidence to propose and implement their creative ideas. Through the different extents of organizational support, employees may go through significant kinds of motivation which deeply affect their innovation process. Hence, how to support Generation Y employees the right ways becomes a crucial concern for every organization. The purpose of the study is to examine the relationship between perceived organizational support and innovative work behavior by investigating the mediating role of work motivation of Generation Y workers in Vietnam. This study plans to adopt quantitative method and data from around 400 Generation Y workers in Vietnam through online surveys. The statistical tools of SPSS v23.0 will be used to analyze the final data. This research will contribute to both theoretical theories and practical workplace environment and indicating the real phenomenon in enterprises in Vietnam.

Keyword: perceived organizational support, innovative work behavior, work motivation, Generation Y, Vietnamese workers.

A Pilot Test on the Validity and Reliability of measures for Job Embeddedness and Employee Performance

Jose Salomon Nazar Villalta¹, Chu-Chen Rosa Yeh²

National Taiwan Normal University, 162, Sec. 1 Heping E. Rd., Taipei City, 10610, Taiwan, R.O.C.

¹abgnazar@hotmail.com

²rosayeh@ntnu.edu.tw

Abstract

A pilot test was conducted to assess the validity and reliability of measurement scales adopted for a study that intends to examine the relationship between Job Embeddedness and Job Performance, among the employees at the central level of the Honduras Health Ministry. Data were collected from the intended sample and a total of 73 participated in this pilot test study. Statistical analysis applied included descriptive analysis, exploratory factor analysis and internal consistency reliability analysis. In addition, correlation analysis was used to initially test the hypothesized relationship among the study variables. The result of the present pilot test revealed good validity and reliability of both measurement sub scales; therefore, they are considered reliable and valid measurements to assess Job Embeddedness and Employee Performance at the central level of the Honduras Health Ministry, which will be used in the main study.

Keyword: Employee performance, job embeddedness, task performance, contextual performance, validity, reliability.

Finding a Job on Facebook: The moderating effect of social media use on job search self-efficacy and job search behavior among Generation Y

Yu-No Ho^{1*}, Yi-Chun Lin²

¹ National Taiwan Normal University

² National Taiwan Normal University

* sunny20041231@gmail.com

Abstract

Nowadays, most people use social media in their daily lives, especially young generations. Social network sites are used not only for leisure activities, but also for professional activities. However, there is a lack of research on how Generation Y job seekers take advantage of social network sites during their job search process. Facebook is the main website that we are going to explore in this study. The purpose of this study is to realize how job seekers' social media use affects the relationship between job search self-efficacy and job search behavior. With the quantitative approach, the questionnaire will be distributed by convenience sampling method through online survey. This target sample size will be expected around 100 Generation Y people in Taiwan. The statistical tools of SPSS version 23.0 will be used to test the hypotheses.

Keywords: social media use, job search self-efficacy, job search behavior, Generation Y, Facebook

The Effect of Employee Competence

Yoshimasa (Nancy) Kageyama¹, Albert Barreda²

¹.907 S National Ave, Springfield, MO, USA, Missouri State University, YKageyama@MissouriState.edu

². 907 S National Ave, Springfield, MO, USA, Missouri State University, AlbertBarreda@MissouriState.edu

Abstract

Focusing on positive service encounters, this study examined the relationships among employee competence, customer delight, and customer word of mouth. The study employed a survey design with measurements from previous research and collected data with Amazon Mechanical Turk. The finding of the study provides valuable implications for research and the industry regarding generating favorable customer behaviors in positive service encounters.

Keyword: Employee Competence, Employee Training, Customer Delight, Word-of-Mouth

Do Compensation and Training Matter toward Employee outcomes? The Banking Sector of Haiti

Melissa Guillaume¹, Chu-Chen Rosa Yeh²,

¹ Graduate Institute of International Human Resource Development, National Taiwan Normal University, 162, Section 1, Heping E. Rd., Taipei City 106, Taiwan melguillaume29@gmail.com¹, rosayeh@ntnu.edu.tw²

Abstract

To continue to exist at some point during recession time, organizations ought to make additional efforts and attempt to keep employees happy, devoted to the institution. Job satisfaction and Organizational Commitment are vital and reliable indicators of organizational performance and without delay help companies gain market power. There are several elements that have an effect on job satisfaction and commitment of employee; this current study will focus solely on Compensation and Training and Development. Those two elements are the driving factors connected to job stress and employee turnover, and therefore constitute the prevalent source of job satisfaction. Furthermore, those two elements fit well with the context of the Haitian banking system, where the labor supply is higher than the labor demand. First is to discuss the impact of Compensation and Training and Development on Job satisfaction. Second, to explore the mediating effect of Job satisfaction the relationship between Compensation and Training and Development and Organizational Commitment. The data for this study were collected from three private commercial banks in Haiti (Unibank S.A, Sogebank and Capital bank). Quantitative research design, convenience sampling, and snowball sampling were used to reach the sample of 74. IBM SPSS Statistics version 23.0 was used to perform data analysis, which included descriptive statistics analysis, Pearson correlation analysis, and hierarchical regression analysis. All study hypotheses were supported. This study brings attention and gives the private banking sector in Haiti more relevant information on employee situations so they can design reforms with the intention to enhance organizational commitment in private institutions

Keyword: job satisfaction, compensation, training and development, organizational commitment.

Analysis of Quantitative Easing's Effect on Volatility in the U.S. Stock Market

Jason Stone¹, Iris Hai Yen Chang²

¹ Program of Global Business, Chinese Culture University, 55, Hwa-Kang Road, Yang-Ming Shan, Taipei City, Taiwan R.O.C. Email: jason.stone3.141@gmail.com

² Department of Finance, 55, Hwa-Kang Road, Yang-Ming Shan, Taipei City, Taiwan R.O.C. Email: zhy3@faculty.pccu.edu.tw

Abstract

This descriptive study examines the impact of the U.S. Federal Open Market Committee (FOMC) non-standard monetary policy Quantitative Easing (QE) on the two largest U.S. stock market indices. Following a narrative of leverage induced volatility, this study argues for the inclusion of GJR GARCH into the relevant literature modeling QE effects on volatility in equity markets. Market returns and volatility analysis of the U.S. stock indices from 1971 until the QE₃ tail period were measured using GJR GARCH framework capturing asymmetric volatility from the conditional variance of the QE_i dummy variable term.

The findings include statistically significant attenuation of volatility through periods of the Federal Reserve Board's QE measures. This study reflects the latest market observations for the entire QE regime in addition to the most widely agreed upon indicators that reflect economic health. We conclude that QE LSAP activity has a slight inverse correlation with GJR asymmetric volatility during across the models, essentially acting as an attenuating effect.

Keyword: Asymmetric Volatility, GJR GARCH, Quantitative Easing, Central Bank Monetary Policy

Market sentiment and heterogeneous fundamentalists in an evolutionary financial market model

Fausto Cavalli¹, Ahmad Naimzada², Nicolò Pecora³, Marina Pireddu⁴

¹ Dept. of Economics, Management and Statistics, University of Milano-Bicocca, Piazza Ateneo Nuovo 1, Milano, Italy. fausto.cavalli@unimib.it

² Dept. of Economics, Management and Statistics, University of Milano-Bicocca, Piazza Ateneo Nuovo 1, Milano, Italy. ahmad.naimzada@unimib.it

³ Dept. of Economics and Social Sciences, Catholic University, Via Emilia Parmense 84, Piacenza, Italy. nicolo.pecora@unicatt.it

⁴ Department of Mathematics and Applications, University of Milano-Bicocca, Via Cozzi 55, Milano, Italy. marina.pireddu@unimib.it

Abstract

We study a financial market populated by heterogeneous fundamentalists, whose decisions are driven by "animal spirits". Each agent may have optimistic or pessimistic beliefs about the fundamental value, which are selected from time to time on the basis of an evolutionary mechanism. The evolutionary selection depends on a weighted evaluation of the general market sentiment perceived by the agents and on a profitability measure of the existent strategies. As the relevance given to the sentiment index increases, a herding phenomenon in agents behavior may take place and the animal spirits can drive the market toward polarized economic regimes, which coexist and are characterized by persistent high or low levels of optimism and pessimism. This conduct is detectable from agents polarized shares and beliefs, which in turn influence the price level. Such polarized economic regimes can consist in stable steady states or can be characterized by endogenous complex dynamics, generating persistent alternating waves of optimism and pessimism, as well as return distributions displaying fat tails and excess volatility.

Keyword: heterogeneous fundamentalists; animal spirits; behavioral finance; sentiment index; complex dynamics.

JEL classification: D84, G41, C62, B52

Financial Performance and Financial Decisions: Dynamic Network DEA Approach

Kuo-Cheng Kuo¹; Wen-Min Lu², Dinh Thanh Nhan³

¹ Program of Global Business, Chinese Culture University No. 55, Hwa-Kang Road, Shilin District, Taipei, Taiwan, kuochengkuo20@gmail.com

² Department of Financial Management, National Defense University, No. 70, Sec. 2, Zhongyang North Road, Beitou, Taipei, Taiwan, wenmin.lu@gmail.com

³ Department of International Business Administration, Chinese Culture University, No. 55, Hwa-Kang Road, Shilin District, Taipei, Taiwan, thanhnhhan2905@gmail.com

Abstract

Taking the advantages of dynamic network DEA, this paper measures the financial performance as the overall efficiency of three divisions. Based on the interrelationship among investment, financing and dividend decisions, we suggest an order of them and their performance lead to the financial performance. We are going to choose an industry that focus on production, manufacturing rather than services or financial industries to this with the proposed direction of investment-financing-dividend. Therefore, data of 36 Taiwan Automobile industry firms from 2013 to 2017 are collected as an example. The empirical results show that financial performance is determined simultaneously by the efficiency of decisions, and although Taiwan firm has good performance in investment or production stage, they need to improve their financial and dividend policies.

Keyword: financial performance, investment efficiency, financing efficiency, dividend efficiency, dynamic network DEA

Exploring the Performance and Competitiveness of Vietnam Port Industry

Kuo-Cheng Kuo¹, Wen-Min Lu², Minh-Hieu Le³

¹Program of Global Business, Chinese Culture University, Taipei, Taiwan. kuochengkuo20@gmail.com

²Department of Financial Management, National Defense University, Taipei, Taiwan. wenmin.lu@gmail.com

³Department of International Business Administration, Chinese Culture University, Taipei, Taiwan.
hieuleminh2203@gmail.com

Abstract

In the port industry, productivity is one of the important factors for ports to develop competitiveness and market potential. The paper integrates context-dependent data envelopment analysis and forecasting model to conduct an efficient measurement of 53 Vietnamese ports and predict the future performance in the port industry. By using the technique to get the measure of performance, this study builds the ports' benchmark-learning stepping tools for the inefficient ports to enhance increasingly. The attractiveness and progress scores are resulted to help the ports position themselves. Moreover, forecasting port performance results help decision makers having more detailed information to make better decisions in their strategies and investments.

Keyword: Data envelopment analysis; Forecasting; Port industry; Attractiveness; Progress; Vietnam

The Impact of Innovative Capability on the Performance of Taiwanese Semiconductor Industry

Grace Tzu-Yi Chang¹, Huei-Ting Tu², Kuo-Cheng Kuo³

¹ Department of International Business Administration, Chinese Culture University, 55, Hwa-Kang Road, 11114, Taipei, Taiwan, R.O.C.

Email: gracetzuyichang@gmail.com

² Program of Global Business, Chinese Culture University, 55, Hwa-Kang Road, 11114, Taipei, Taiwan, R.O.C.

Email: hannah09583531@gmail.com

³ Program of Global Business, Chinese Culture University, 55, Hwa-Kang Road, 11114, Taipei, Taiwan, R.O.C.

Email: kuochengkuo20@gmail.com

Abstract

This research applies dynamic Data Envelopment Analysis (DEA) to evaluate the impact of innovative capability on the firm performance in the Taiwanese semiconductor industry in the period of 2013 to 2017. The results indicate that companies having higher innovative capabilities help firms achieving better performance. Thus, meaning that it has a higher chance to sustain for future challenges.

Keyword: Semiconductor Industry, Innovative Capability, Dynamic Data Envelopment Analysis, Performance

The Durability and Effects of Terminating Young Generations' Negative Stereotype to Emerging Market- The Formation Paths of Global Minds Derived from the Effects of Introducing Africa Thematic Programs to Improve Young Generation's Stereotype to the Emerging Africa Market

Kuo-Kuang Huang

¹ Chihlee University of Technology, Department of International Trade, Associate Professor

Abstract

Taiwanese Entrepreneurship seems to be weaken followed by slow economic growth. To enhance International Trade major of student's global mind level and professional skills applied to international business world, the author takes advantage of the Mandela's Century's celebration event and initiated a series of specific seminars and speeches for young people. Co-working with the Liaison Office of South Africa in Taipei to provide speeches related to Mandela's works, the development status of Education Industry, business development, Travel industry and grape wine industries in the South Africa in one university campus. This study sampled and surveyed 160 university students who major in the international trade for their stereotype perception to Africa as a pre-test. Digital survey tool, ZUVIO, is used to collect samples' opinions to participated speech or seminar. At last, Participants were also surveyed about their attitudes to expatriate to the target country in the Africa. Generally speaking, direct contact to African and Africa event can reverse samples' negative stereotype to Africa. According to the study, this study's participants can perceive the Africa market as opportunity instead of risky place.

Keyword: Entrepreneurship, Stereotype, Global Mind, South Africa

To Share or Not to Share: Assessing Knowledge Sharing from Social Capital and Hypercompetitive Perspectives

Tse Yao Huang¹, Chieh-Peng Lin² and, Mei-Liang Chen³

¹ Ph.D. candidate, Institute of Business & Management, National Chiao Tung University, 118, Sec. 1, Chung-Hsiao W. Rd., Taipei, Taiwan, 100, E-mail: tyhuang.bm02g@nctu.edu.tw.

² Professor, Institute of Business & Management, National Chiao Tung University, 118, Sec. 1, Chung-Hsiao W. Rd., Taipei, Taiwan, 100, E-mail: jacques@nctu.edu.tw.

³ Lecturer, Department of International Business and Marketing, China University of Science and Technology, 245, Sec. 3, Academia Rd., Taipei, Taiwan, 115.

Abstract

Drawing upon the social capital theory and the affective events theory, this study proposes a research framework to assess how social capital factors influence knowledge sharing with the mediation of positive affective tone and the moderation of hypercompetition in the high-tech teams. We survey data based on 330 questionnaires of working professionals from 66 high-tech teams in Taiwan, in which each team comprises four members and their team leader. The empirical results of this study show that social interaction, shared vision, and trust are positively related to knowledge sharing via the mediation of positive affective tone. Moreover, hypercompetition has positive moderating effects on the relationships between social interaction and positive affective tone as well as between trust and positive affective tone. Based on the findings, the study discusses theoretical implications, managerial implications, and limitations.

Keyword: social capital theory, affective events theory, positive affective tone, hypercompetition, knowledge sharing.

Online Group Package Tour Advertising: Customizing the Senior-Tourist-Oriented Webpage

Kuo-Ching Wang¹, Ruey-Luen Chen², Wen-Yu Chen³, Junyi Zhang⁴, Yu-Lung Sung⁵

³Department and Graduate School of Leisure Management, National Pingtung University,
wenyuchen@mail.nptu.edu.tw

Abstract

The senior tourists have been growing swiftly. This study explores the online advertising design components and advertising effectiveness of group package tour on the senior-tourist-oriented market. Approach-wise, an experimental design and dual stage data collection are implemented, while 253 and 203 senior tourists were surveyed at the first and second stage, respectively. The attractive webpage design components are specifically-identified: large font size at 14pt; black font on white screen background; 2.5x line spacing; enlarged pictures at 155x116 size with dual graphics attached. The findings could substantially benefit the webpage designers and travel agencies intended to penetrate the online senior-tourist domain, particularly, in the Asia Pacific Region.

Keyword: senior tourist; advertising components; advertising effectiveness (AE); group package tour (GPT)

Creative Workers Copyright and Consumer Protection On the Internet

Tai-Chih Fan¹

¹Department of International Trade, Chihlee University of Technology, tcfan@mail.chihlee.edu.tw

Abstract

copyright issues at the new era of the Internet. Copyright refers to the rights granted to creators for their literary and artistic works. Generally speaking, copyright protects the following works: literary works such as novels, poems, plays, reference works, newspaper articles; computer programs, databases; films, musical compositions, and choreography; artistic works such as paintings, drawings, photographs, and sculpture; architecture; advertisements, maps, and technical drawings. And the copyright holder may authorize or prohibit the following things on the protected work: its reproduction in various forms, such as printed publication or sound recording; its public performance, such as in a play or musical work; its recording, for example, in the form of compact discs or DVDs; its broadcasting, by radio, cable or satellite; its translation into other languages; and its adaptation, such as a novel into a film screenplay. What a copyright protects is the original expression of ideas, which should: (1) be fixed in a tangible form; (2) an original work of authorship; and (3) fall within the subject matter of copyright. Online piracy and broadcast piracy grow in our lives as broadband Internet connections become available to more people, and as mobile technology becomes more complex while accessible. On the other hand, technology also makes the Internet an effective and efficient vehicle for dissemination of infringing content, and thus lawful e-distribution service providers encounter unfair competition. Online piracy is the most critical copyright enforcement issue faced by many markets, which can no longer be ignored. This paper will first discuss broadcasting and copyright, encompassing the Internet and copyright law, filmmaking with a focus on China, as well as related areas like advertisement and video games. This paper will then discuss copyright protection for music, encompassing content service, streaming, and remixing. This paper will further explore opportunities to adopt copyright as a good investment vehicle. Research results indicate that creative workers like musicians, filmmakers, and broadcasting companies are most vulnerable to copyright infringement on the Internet. Moreover, innovative infringements made by websites are causing damage to creative workers. Finally, we should strive to provide reasonable remuneration to creators without hindering with business investment, and thus also protect lawful rights and interest of online consumers.

Keyword: Copyright, Creative Worker, Consumer Protection, Internet, Film, Music

Manufacturing Productivity in China, South Korea and Taiwan and the Effect on Robotics Factor

Kuo, Kuo-Cheng¹, Lu, Wen Min², Tam, Nguyen Dinh³

¹ Program of Global Business, Chinese Culture University, No. 55, Hwa-Kang Road, Shilin District, Taipei 111, Taiwan. Email: kuochengkuo20@gmail.com

² Department of Financial Management, National Defense University, No. 70, Sec. 2, Zhongyang North Road, Beitou 112, Taipei, Taiwan. Email: Wenmin.lu@gmail.com

^{3*} Department of International Business Administration, Chinese Culture University, No. 55, Hwa-Kang Road, Shilin District, Taipei 111, Taiwan. Email: Tamnd.hvnh@gmail.com

Abstract

Traditional manufacturing industry is significantly affected by the application of robotics in producing chains. This research employs the metafrontier Malmquist productivity index approach to measure the performance of China, South Korea and Taiwan manufacturers, considering the application of robotic factor. The results indicate that firms are getting closer to the metafrontier benchmark over the time. In addition, Taiwan's manufacturers are most productive. Taiwan' firms are best innovative effect, South Korea' firms are best catching up effect, while China's are best in leadership effect. Also, the appearance of robotic factor significantly improves the best practice gap change of ownership countries.

Keyword: Manufacturing productivity, robotic factor, efficiency change, best practice gap change, technical gap change, China, South Korea, Taiwan.

Assessing the Impact of International Standards on Corporate Social Responsibility: Factor Model Approach

Chen Chih-Hung¹, Hsiao Chiu-Ming²

¹ Chen is an assistant professor from National Institute of Development Administration (NIDA), Thailand. (118 Moo3, Serithai Road, Klong-Chan, Bangkok, Bangkok Thailand 10240). Tel: +662-727-3000. E-mail: cc161161@gmail.com.

² Hsiao is a lecturer from Department of Finance in National Yunlin University of Science and Technology, Taiwan. (No. 123, Section 3, University Road, Douliu (640), Yunlin County, Taiwan, R.O.C.). Tel: +886-5-5342601 ext 5415. E-mail: shiaucm@gmail.com.

Abstract

Existing studies have provided numerous guidelines for the implementation of corporate social responsibility (CSR). However, business leaders have been either confused or reluctant to take action largely due to the complicated process of applying CSR. To alleviate this problem, this study examined whether international standards can be considered a benchmark tool to implement CSR. Based on a literature review, four key dimensions that construct CSR were accountability, competitiveness, transparency, and responsibility, while the four main characteristics of international standards were auditing effectiveness, reputation establishment, information symmetry, and consumer awareness. The hypothesized model depicted that certification systems of International Standard (IS) sufficiently reflected the four dimensions of CSR. Major questions were developed and designed as a questionnaire by using a 5-point Likert scale in order to indicate the respondents' level of agreement. Data on a sample of 185 Taiwanese companies in the year 2014 were collected using face-to-face interviews along with questionnaires. The results obtained from a discriminant analysis showed that international standards helped stakeholders distinguish between companies with and without CSR goals; in turn, these standards could be regarded as a feasible and optimal tool for companies to demonstrate their commitment to CSR.

Keyword: Corporate Social Responsibility; International Standards; Discriminant Analysis; Factor Model; Taiwan

The Role of Experiential Value in Predicting University Students' Bicycle Usage Behavior: Extending the Theory of Planned Behavior

Chih-Cheng Lin¹, Cheng-Hao Lai², Yu-Huan Shen³, Chung-Long Yu⁴

¹ Graduate Institute of Sports and Health Management, National Chung Hsing University Graduate student
jason83629@gmail.com

² Department of Leisure and Recreation Management, Asia University Assistant Professor c.lai@asia.edu.tw

³ Graduate Institute of Sports and Health Management, National Chung Hsing University Graduate student
harryport0831@gmail.com

⁴ Graduate Institute of Sports and Health Management, National Chung Hsing University Associate Professor
ilovecharles180@hotmail.com

Abstract

This study aims to examine the effect of experiential value on individual's behavioral intention using extended Theory of Planned Behavior (TPB). 231 National Chung- Hsing University students were invited to participate in this research. The structural equation model indicates that the inclusion of experiential value improves behavioral intention. Specifically, TPB factors such as attitude, perceived behavioral control were found to be important factors. Furthermore, experiential value is also proven to be crucial in explaining college student's bicycle riding intention. Therefore, our study not only contributes to the existing TPB literature, but also enhances current understanding of the determinants of individual's intention to ride IBike.

Keyword: IBike, Green transportation, decision-making process

The Research of Antecedents and Outcomes of Occupational Safety and Health in Hospitals

Chung-Hung Tsai¹

¹ Department of Health Administration, Tzu Chi University of Science and Technology, Hualien , Taiwan E-mail: tsairob@tcust.edu.tw

Abstract

The purpose of the study is investigate the antecedents and outcomes of occupational safety and health (OSH) in hospitals. The study integrated four contextual factors of an organization (perceived organizational support, safety climate, social influence, and shared decision making) and OSH's preventive action and safety satisfaction to formulate the research framework. This study surveyed employees of two hospitals, one in Northern and one in Eastern Taiwan, collecting valid data from 468 respondents. Structural equation modeling (SEM) was used to verify our research framework. The finding indicates that (1) All hypotheses proposed in this study were supported. (2) The overall goodness of fit of the model was excellent, and the explained variance of the outcome variables was high. (3) Safety climate had the strongest total effects on preventive action and safety satisfaction simultaneously, whereas preventive action had the strongest direct effect on safety satisfaction.

This study illustrates the importance of four contextual factors of an organization in helping shape OSH's preventive action and safety satisfaction in hospitals. The findings may serve as a reference for future research and for scholars and practitioners.

Keyword: perceived organizational support; safety climate; social influence; shared decision making

ASEAN+3 Banknote Recognition System (A+3BRS)

**Chomtip Pornpanomchai¹, Kanthakron Banchakulchai²
Nattawat Charoenrungsiri³, Charunthorn Juntanun⁴**

¹ Faculty of Information Communication Technology (ICT), Mahidol University 999 Phuttamonthon 4 Road, Salaya, Nakhon Pathom, 73170, THAILAND

(e-mails: chomtip.por@mahidol.ac.th, kanthakron.ban@student.mahidol.ac.th, nattawat.cha@student.mahidol.ac.th, charunthorn.jun@student.mahidol.ac.th)

Abstract

Nowadays, the banknote is the most frequently used currency in the economy even though there is technology for internet banking that can trade and exchange things more easily. ASEAN+3 Banknote Recognition System (A+3BRS) is an image recognition application, which is used for recognizing and converting exchange rates for each unique banknote in ASEAN+3 countries. The A+3BRS database stores the data of 6,500 banknotes from 108 current different currencies, including the exchange rates. The system applies an artificial neural network to classifying paper currency. The A+3BRS is developed and tested on 598 random images and the test results are classified into mobile-phone captured pictures, internet banknote pictures, outside ASEAN+3 banknotes, and kids toy banknotes. The accuracy rate of the experimental results are 53.50, 73.75, 100.00 and, 100.00 per cent, respectively. The A+3BRS average access time is 0.8593 second per image.

Keyword: ASEAN+3, Banknotes, Exchange Rate, Pattern Recognition, Image Processing, Intelligent System.

A Study on Needs, Motivations, and Urge to Post Online Reviews

Li-Chen Yu¹, Chia-Lin Hsu²

¹ Ph.D. student of Department of International Business Administration in Chinese Culture University 55,
Hwa-Kang Road, Yang-Ming-Shan, Taipei, 11114, Taiwan
yulichan0415@gmail.com

² Associate Professor of Department of International Business Administration in Chinese Culture University 55,
Hwa-Kang Road, Yang-Ming-Shan,
Taipei, 11114, Taiwan xjl6@ulive.pccu.edu.tw

Abstract

The purposes of this study are to explore that when people's needs (i.e. existence, relationship, and growth need) are met, their impacts on intrinsic motivations (i.e. helping others, supporting websites, and feeling interesting) and extrinsic motivations (i.e. recognition from others, social connections, and financial incentives), and in turn, affect urge to post online reviews. This study uses simple linear regression and hierarchical regression analysis to test the hypotheses. The findings shows that the needs of existence and growth are significantly higher and positive influence on intrinsic motivation to post online reviews, compared to external motivation. However, relatedness need has a significant higher and positive influence on external motivation to post online reviews, compared to intrinsic motivation. In addition, regardless of intrinsic or extrinsic motivation, motivations significantly and positively influence urge to post online reviews. Furthermore, motivations have a significant and positive partial mediating effect on the link between needs and urge to post online reviews. Finally, needs have a significant and positive effect on urge to post online reviews. Based on the results of this study, academic and managerial implications, research limitations, and future research directions are presented in this paper.

Keyword: existence needs, relationship needs, growth needs, intrinsic motivation, extrinsic motivation, urge to post online reviews

The nexus between political stability, corruption control and tax level with illicit financial flows: Empirical Evidence from African countries

Aye Mengistu Alemu

Associate Professor of Economics, SolBridge International School of Business

128 Uam-ro, Dong-gu, Daejeon, South Korea 34613 (Samsung-dong)

E-mail: ayem2011@solbridge.ac.kr

Abstract

Capital flight and its' causes has been, and continues to be a very topical issue. Moving on from the usual much-discussed capital flight in aggregate form, this paper looks towards the illicit capital outflows and more specifically it examines the effect of corruption control, political stability and tax rate on illicit financial outflows for African countries based on a balanced panel data for 32 countries covering the period 2005-2014. The empirical evidences support the hypotheses that illicit capital outflow reduces with higher political stability and corruption control but it increases with tax rate. More specifically, the regression estimates reveal that a unit increase in political stability and corruption control reduce illicit financial outflow by an average of US\$ 27.5 million and US\$ 21 million respectively. Likewise, the empirical results show that a one percentage increase in tax rate reduces illicit financial outflow by an average of 35.8 million. The study also confirms that increase in inflation and trade openness significantly and positively trigger illicit financial outflows while increase in income per capita and annual GDP growth reduce illicit financial outflow. The findings are robust to alternative econometric specifications using three alternative dependent variables. The findings offer novel insights to policy makers and underline that governments in Africa countries must strengthen institutions responsible for fighting corruption, tax evasion and enhancing political stability and good governance infrastructure.

Keyword: Corruption, political stability, tax rate, illicit financial outflow, Africa.

Secure and Efficient Authentication Scheme for Internet banking

Chien-Hua Tsai¹

¹ No.313, Sec. 1, Wenhua Rd., Banqiao Dist., New Taipei City 22050, Taiwan Department of Accounting Information, Chihlee University of Technology, Taiwan
chienhua@mail.chihlee.edu.tw

Abstract

Information technology has literally changed the way banks operate, with a host of traditional and new banks that have been launching their customers online banking products and services. Banks encourage their customers to use the online banking facilities frequently as they reduce transaction costs and enhance customer services, and customers are also delighted to use the Internet banking channels because of self-service and convenient operations. While Internet banking offers enormous benefits and opportunities, it faces the security risks that are specific to carry out sensitive transactions or accessing any critical information over public networks. To secure the Internet banking activities and maintain the trust and confidence of customers, many banks have widely adopted technical countermeasures, e.g. two-factor or multi-factor authentications, to prevent cyberattacks, online frauds or unauthorized access to bank accounts. However, the use of two-factor authentication has been inadequate for protecting customers' accounts against takeover by cyber criminals, whereas multi-factor authentication services along with security techniques lead to two great barriers: the high costs of deployment and maintenance, and the complex integration between authentication processes and online banking systems. This paper presents an alternative model to authenticate customers for online transactions based on a multi-server authentication scheme in conjunction with a smart chip card to yield great security degrees and low maintenance costs for bank institutions in an Internet banking environment.

Keyword: Internet banking, Two-factor authentication, Multi-factor authentication, Multi-server authentication

The Supervision of the Bank Capital: An Analysis of Taiwan Financial Holding Companies

Yi-Fang Chung¹

¹ No. 1, Ln. 380, Qingyun Rd., Tucheng Dist, New Taipei City 236, Taiwan (R.O.C)Department of Business Administration, HungKuo Delin University of Technology.
yvonne.chung1122@gmail.com

Abstract

The supervision measure for capital requirement of the financial holding companies listed in TWSE is analyzed in this study. Applying the Merton's structural model and taking into account the observable market value of equity, the volatility of equity and the book value of debt, the market capital ratio with variable trigger threshold is examined. The capitalization measure proposed here is not only connected with the changeable financial market but also satisfied the acceptable default probability. And the variable trigger threshold could be also as the trigger threshold of the contingent capital which is the capital buffer for the capital requirement especially in the difficult funding times. The least capital raising requirement of the undercapitalized banks is measured efficiently and increases the bank's loss absorbing capacity.

Keyword: bank capital supervision, contingent capital, financial crisis, Taiwan financial holding company

Developing Team Performance: The Double-Edged Nature of Justice

Jui-Yu Chen¹, Mei-Liang Chen², Chieh-Peng Lin³

¹ National Chiao Tung University, Taipei, Taiwan E-mail: geneous12@gmail.com

² China University of Science and Technology, Taiwan

Abstract

This study bridges social cognitive theory and Turner's theory of social interaction to develop a model that explains how work teams in technology industry can be motivated to enhance team performance. Using data from team workers in high-tech firms in Taiwan, this study shows that team performance positively relates to collective efficacy via the full mediation of social interaction. Furthermore, justice positively moderates the relationship between collective humility and social interaction but negatively moderates the relationship between collective efficacy and social interaction. Lastly, managerial implications and research limitations based on the empirical results are provided.

Keywords: Technology industry; social interaction; justice; collective humility; collective efficacy; team performance

The Learning Management System for Web-Based Peer Assessment

Chin Huey Chang¹, Ming Hsiu Tsai²

¹ Graduate Institute of Technological & Vocational Education, National Taipei University of Technology, Taiwan,
t8499005@ntut.edu.tw

² Graduate Institute of Technological & Vocational Education, National Taipei University of Technology, Taiwan,
mhtsai@ntut.edu.tw

Abstract

Peer assessment provides students with several benefits during their learning process. Peer assessment can facilitate students' higher-order thinking skills and cultivate the ability of cooperative learning. Teachers are reluctant to implement peer review, because of time and energy consuming, scoring difficulties and anonymous grading. Therefore, many LMSs gradually increase peer assessment modules to reduce the burden of teachers. Due to a high market share in Taiwan's higher education, Wisdom Master System (Learning Management System, LMS) was used to conduct peer assessment. In the university "English Vocabulary and Reading" course, students were challenged to reinforce a set of cognitive and personal competencies, using a web-based peer assessment approach. This paper is structured as follows. The first section provides the introduction and the second section addresses a review of the related literature about peer assessment. The third section presents the function of peer assessment in Wisdom Master System. In the end, based on the implementation experience of the "English Vocabulary and Reading" course, suggestions for future web-based peer assessment is proposed.

Keyword: Peer assessment, Learning Management System, Online assessment, Wisdom Master System

Herd Behavior in China's Housing Market: Evidence from the Four Tier City Markets

Yi-Chang Chen¹, Housen Wang², Yixuan Fu³, Xue Lin⁴, Mingqi Li⁵

¹ Accounting School, Nanfang College of Sun Yat-sen University, China
882 Wenquan Road, Wenquan Town, Conghua District, 510970, Guanzhou, China
Email: Phdchen7219@gmail.com

**corresponding author 2,3,4,5 Accounting School, Nanfang College of Sun Yat-sen University, China*

Abstract

In this paper, we use the method proposed by the Chang et al. (2000) to analyze the herd effect for housing market in China. In the eight years from 2011 to 2018, 70 cities were selected for research, and they were divided into first, second, third and the fourth tier cities according to the degree of economic development. We analyze the impact of herd behavior on different events in different regions in terms of the rising and falling markets, and the feedback of interest rates, provident fund, GDP, Stocks and CPI on housing prices. We find the evidence that the herd effect exists in Chinese real estate from the two dimensions of region and time.

Keyword: Herd Behavior; housing market; interest rates; provident fund; GDP; CPI

Contributing Factors of Ethical Work Climate in the Public Sector: The Case of Solomon Islands

Hellen Haapisi¹, Chu-Chen Rosa Yeh²

National Taiwan Normal University, 162, Section 1., Heping E, Rd, Taipei City 106, Taiwan

¹ hellenhaapisi9@gmail.com, ² rosayeh@ntnu.edu.tw

Abstract

Based on the global trend scholars recently has shown interest in ethical work climate as a cure to organization unethical behaviors. Often, ethical work climate is hard to identify, especially in public sector organizations in developing country like Solomon Islands because leaders focus is on the need of power of the bureaucrats than the need of providing service to the citizens. This paper identifies the contributing factors causing ethical work climate as the culture guiding the behavior of the employees and to prevent unethical behaviors from occurring. The method used for data collection for this study was qualitative. Semi-structured interviews were conducted with fifteen participants in twelve public sector organizations. The interview data were transcribed, coded and analyzed to reveal themes. Results show that compliance to code of conduct, formal and informal structure are essential to foster the development of ethical climate in the public sector of Solomon Islands. The participant felt that it would be helpful if leaders are given right training based on the country context to produce leaders who are able to address with integrity and justice the issues affecting development of the Solomon Islands Public Sector.

Keyword: Ethical Work Climate, Ethics, Public Sector, Solomon Islands.

Loyalty to Supervisor or Organizational Commitment: Measuring Employee Job satisfaction and Job Performance

Chen-Chieh Chang¹, Yan-Chiun Peng² Liang-Ju Chen³

¹ Department of Health Business Administration, Hungkuang University of Science and Technology No. 1018, Sec. 6, Taiwan Boulevard, Shalu Dist., Taichung City 43302, Taiwan, ROC. changcc0120@gmail.com clj.ltc@gmail.com

² Department of Chains and Franchising Management, Takming University of Science and Technology No.56, Sec.1, Huanshan Rd., Neihu District, Taipei City, Taiwan 11451, R.O.C. yanchiun@takming.edu.tw

Abstract

This study aims to probe into the effects of different commitment subjects on employee job satisfaction and job performance. In addition, we also examined the moderating effects of loyalty to supervisors on the relationship between organizational commitment and job satisfaction, and organizational commitment and job performance. The top 1000 enterprises in Taiwan were chosen as the subjects, and 198 questionnaires were retrieved. The hypotheses were validated by hierarchical regression analysis. According to the results, loyalty to supervisors and organizational commitment significantly and positively influence job satisfaction. The explained power of organizational commitment on job satisfaction is more significant than that for loyalty to supervisors. Loyalty to supervisors and organizational commitment also significantly and positively influences job performance. The explanatory power of organizational commitment on job performance is more significant than that for loyalty to supervisors. Finally, loyalty to supervisors has a significant moderating effect in between organizational commitment, job satisfaction, and job performance. Based on the findings, this study proposed a number of managerial implication and suggestions for future research.

Keyword: Foci and bases of commitment, Job satisfaction, Job performance.

The Decision Making for Tourism to Ladchado Market, Phak Hai District, Ayutthaya Province

Ratirath Na Songkhla¹

¹ College of Innovation and Management, Suan Sunandha Rajabhat University, Thailand
ratirath.na@ssru.ac.th

Abstract

The purpose of this research article is 1) to study level of attitudes toward decision marking for tourism in Ladchado market and 2) to study factors that affect decision marking for tourism in Ladchado market. This study is a quantitative research which utilizes a questionnaire as a research instrument. The sample consists of 400 Thai people who travel to Ladchado market. Data are analyzed by descriptive statistics including frequency, percentage, mean and standard deviation. For testing hypotheses, data were analyzed with the Multiple Regression to test the correlation at the significance level of 0.05. The outcomes of this study show that the tourists have strongest attitude toward the tourist attractions at the highest level. Furthermore, the tourists have strong attitude toward the staffs at the high level while the attitude toward the information received is at moderate level. On the other hand, the tourists have attitude toward the transportation and tourist facilities at the low level. For the hypothesis testing, it shows that the transportation, information received, and tourist attractions factors could predict the decision marking for tourism in Ladchado market at 52 percent at the significance level of 0.05. with correlation coefficient equal to 0.55.

Keyword: Tourism, Ladchado market, Thailand

Students' Satisfaction with Home Food and School Food – A Comparison and Confirmation Study in Japan

Bình Nghiệm-Phú¹

¹ School of Economics and Management, University of Hyogo, binhngkiem@gmail.com

Abstract

The purposes of this study are twofold. First, the study compares school food satisfaction with home food satisfaction to detect the gap between these two important eating places. Second, it investigates the correlation among the factors of school food satisfaction to see their potential interactions. Using data gathered from a college of technology in Japan, this study found that students were more satisfied with the food that they eat at home than those at school. In the cases where they gave school food better evaluations, the differences were insignificant. In addition, the four-component structure of school food satisfaction (menu, food, hygiene/sanitary and environment) could not be confirmed. Practical and theoretical implications of these outcomes were discussed.

Keyword: case study, *t*-test, factor analysis, structural equation modeling

The Survey of Predictive Maintenance and Cloud Computing

Yuhsin Hung¹, Shuling Lai¹

¹ Department of Industrial Engineering and Management, National Yunlin University of Science and Technology, Yunlin, Taiwan
Email:hungyh@yuntech.edu.tw

Abstract

Internet of things (IoT) has brought transformations in various fields, including the manufacturing industry. Its technology has been applied extensively in industries, including the industrial internet of things (IIoT). IIoT can be described as the industrial framework where numerous devices or equipment are connected and synchronized by applying gateway, third-party technologies and cloud computing in a machine-to-machine (M2M) communication. Recently, the application of predictive maintenance (PdM) in the IIoT has attracted considerable attention from various researchers and professionals. This study surveyed the PdM-related studies from 2010 to 2019. It investigates the disciplinary distribution of emerging the PdM-related topics. The findings of this study show that big data, IoT, and prognostics and health management (PHM) are the key issues driving researches, which are associated with PdM. Additionally, this study investigates the present cloud solution for achieving the goal of PdM using the cloud machine learning module. The results demonstrated that the cloud-computing solution offers the appropriate tools needed for the users to analyze their equipment data and build the maintenance strategy

Keyword: Predictive maintenance, Cloud computing, Industrial internet of things (IIoT), Machine-to-machine (M2M), Machine learning, PHM

An imperfect quality economic order quantity under progressive payment scheme

Ye-Yu Wu¹, Yu-Li Lin², Kuo-Nan Huang^{3*}

¹ Department of Industrial Engineering & Management, St. John's University, 499, Sec. 4, Tam King Road, Tamsui District, New Taipei City 25135, Taiwan, R.O.C. Email: yeyuwu@mail.sju.edu.tw

² Department of Business Administration, Chihlee University of Technology, 313, Sec. 1, Wenhua Rd., Banqiao District New Taipei City 22050, Taiwan, R.O.C. Email: yulilin29@gmail.com

³ Department of Industrial Engineering & Management, St. John's University, 499, Sec. 4, Tam King Road, Tamsui District, New Taipei City 25135, Taiwan, R.O.C. Email: hsiaosa@mail.sju.edu.tw

Abstract

Most researchers established the inventory models by assuming the products received are non-defective. However, in realistic environment, it is difficult to produce or purchase items with 100% good quality. Then, an inspection process is necessary to identify the defective items because of these defective items the retailer incurs additional cost due to rejection, repair and refund etc., so inspection of lot becomes indispensable in most of the organization. In addition, it can be observed the retailer can pay off all accounts at the end of the credit period or delay incurring interest charges on the unpaid and overdue balance due to the difference between interest earned and interest charged in the practical situation. Keeping this scenario in mind, the aim of this paper is to develop a general and practical model that is more realistic in the competitive commercial situations and an attempt has been made to formulate an inventory model for imperfect quality items under permissible delay in payments. Finally, the objective is to maximize the annual profit by optimizing the order size and results have been validated with the help of a numerical.

Keywords: Inventory, permissible delay in payments, imperfect items, inspection.

Analysis of executive turnover and stock price changes

Shih-Chin Lee¹, Yong-Fa Chen²

¹Department of Finance, Chihlee Institute of TechnologyE-mail:icestorm@mail.chihlee.edu.tw

² Department of Finance, Chihlee Institute of TechnologyE-mail:Q0707116@mail.chihlee.edu.tw

Abstract

Executive turnover will not only affect the company's daily business activities but also related to changes in the organizational structure, management methods, human resources, strategic plans, etc. of listed companies. Therefore, the research on the event analysis of the change in the price of the listed company's executives is very important. The research on the relationship between the performance of the executives' replacement and the degree of influence on corporate performance and corporate governance is expected to be used as an investor when the company releases executives. The basis for investment decisions, and can provide the China Securities Regulatory Commission (CSRC) as a reference for management.

This paper selects the 2015-2017 China A-shares listed the company's main board market executive change event as a research sample and uses the Event Study to examine the market reaction and its influencing factors caused by senior management. This study finds that, in general, the market regards executive change as bad news and has a significant negative reaction to executive change; the nature of the company and the political background of the successor are important factors influencing the market's response to executive change; There is no concern about the source of successors and the type of executive change, and there is no significant difference in market response.

Keyword: Executive Change, Stock Price, Event Study, Market Reaction, Influencing Factors

Abusive Supervision and Supervisor-directed Deviance: The Mediating Role of Revenge Thoughts and the Moderating Role of Negative Reciprocity Beliefs and Social Undermining Norms toward Supervisors

Shin-Guang Liang^{1,3}, Hsi-Fang Lai², Shu-Cheng Steve Chi³

¹Department of Business Administration, National Chung Cheng University, sgliang@ccu.edu.tw

²Graduate School of Resources Management and Decision Science, National Defense University, d02741001@ntu.edu.tw

³Department of Business Administration, National Taiwan University, n136@ntu.edu.tw

Abstract

This paper proposes and tests a social-norms model to explain how and when abusive supervision fuels subordinates' supervisor-directed deviant behaviors. We developed and tested a social-norms model of abusive supervision in experiments using data from two samples of military personnel. For Sample 2, we collected two-wave data one-and-a-half months apart. In support of our proposed model, we found that the effect of abusive supervision on supervisor-directed deviance was mediated by supervisor-directed revenge thoughts and moderated by both negative reciprocity beliefs (an internalized social norm) and social undermining norms toward supervisors (an externalized social norm). In addition, perceiving social undermining norms toward supervisors strengthened the positive relationship between revenge thoughts and supervisor-directed deviance.

Keyword: Abusive supervision; revenge thoughts; negative reciprocity beliefs; social undermining norms towards supervisors; supervisor-directed deviance

The Moderating Effect of Supervisors' Positive Communication and Hopeful Leadership on Employee Responses to Psychological Contract Breach

Hsi-Fang Lai¹, Shu-Cheng Steve Chi², Chin-Tien Hsu³, Mei-yu Yang⁴

¹ Graduate School of Resources Management and Decision Science, National Defense University, d02741001@ntu.edu.tw

² Department of Business Administration, National Taiwan University, n136@ntu.edu.tw

³ Department of Counseling and I/O Psychology, Ming Chuan University, cthsu@mail.mcu.edu.tw

⁴ Department of Business Administration, Chihlee University of Technology, caty@mail.chihlee.edu.tw

Abstract

In this study, we investigate the joint moderating effects of positive communication and hopeful leadership on the relationship between perceived psychological contract breach and counterproductive work behaviors (CWB). We drew on a sample of 293 dyads of military officers and their immediate subordinates in Taiwan. Our results showed that perceived psychological contract breach was positively related to counterproductive work behaviors and that the relationship between psychological contract breach and counterproductive work behaviors was weaker when positive communication was high. In addition, we found that high (low) hopeful leadership, combined with high positive communication, resulted in low (high) counterproductive work behavior, regardless of the level of perceived psychological contract breach, while leadership with low positive communication resulted in a positive relationship between perceived psychological contract breach and counterproductive work behaviors regardless of whether hopeful leadership was high or low.

Keyword: perceived psychological contract breach, counterproductive work behaviors, positive communication, hopeful leadership,

Aging population and financial services: A preliminary evidence

Hsiu-Hsia Chou

¹ Department of Finance, Chihlee University of Technology, hhchou@mail.chihlee.edu.tw.

Abstract

The aim of this paper is to reveal the relation between population aging structures and financial service patterns. Using the data of 144 countries in 2017, we find the preliminary evidence that population aging structures correlate with financial services. Proportions of age 15-64 and age 65 plus groups are positively correlated with percentages of financial accounts and digital payments, but negatively correlated with percentages of mobile accounts. It implies that population aging structures affect financial service providing patterns differently. The result provides implications for financial institutions and policymakers while they strive to promote the FinTech innovations.

Keyword: population aging structure, financial services, mobile banking, digital banking, FinTech

Examining the Strength Difference of Individual Traits on Training Goal Settings and Training Motivation.

Wei-Tao Tai

Wen-Zhong Su

Department of Business Administration

Department of Business Administration

Chihlee University of Technology

Chihlee University of Technology

Abstract

The purpose of this study is to examine the strength difference of five traits (i.e., self-efficacy, emotional stability, conscientiousness, and locus of control) on three types of training goal setting (i.e. learning, proving, and avoidance goal settings). The results showed that self-efficacy had more positive effect on learning goal setting than the other four traits. For proving goal setting, self-efficacy and conscientiousness were observed to own stronger impact on it among the five traits. On the other hand, internal locus of control was found to have more negative effect on avoidance goal setting than the other four traits. This study also found that locus of control and emotional stability had no significant impact on proving goal setting. For the impact power on training motivation, the two traits also showed weaker strength than the others. The practical implications and future research directions are discussed.

Keywords: Individual traits, Training goals, Training motivation

An Investigation of the Incremental Influence of Four Organizational Commitments on Two Strains, Job Satisfaction, and Intention to Leave

Wei-Tao Tai

Chihlee University of Technology, tw9429@mail.chihlee.edu.tw

Abstract

This study examined the impacts of the four organizational commitments (i.e., affective, normative, accumulated costs, and limited alternatives) on two strains (i.e., emotional exhaustion and disengagement), job satisfaction and intention to leave. The study found that affective commitment and normative commitment negatively predicted two strains and intention to leave, and positively predicted job satisfaction. The study also found that accumulated costs commitment negatively predicted intention to leave, and limited alternatives occupational commitment negatively predicted job satisfaction. In addition, this study further examined the incremental effects between the four commitments on two strains, job satisfaction and intention to leave. The results indicated that affective commitment had the most positive strength of the four commitments, and limited alternatives occupational commitment is the unwanted one. The theoretical and practical implications will be discussed.

Keywords: organizational commitment; job strain; job satisfaction; intention to leave

A Hybrid AI Approach for Improving SCM Customer Demand Prediction

Xun-Yi Zhuang¹, Yu-Chen Chen², Hsin-Lu Chang³, Yu-Ju Tu⁴

¹ xunyi0414@gmail.com, National Chengchi University, Taiwan 2 blazers20736@gmail.com, National Chengchi University, Taiwan

² hlchang@nccu.edu.tw, National Chengchi University, Taiwan 4 tuyuju@nccu.edu.tw, National Chengchi University, Taiwan

Abstract

In general, although use of the black-box AI approach for predicting SCM customer demand is very efficient, use of the white-box AI approach is very effective for communication. However, it is still not clear whether the two approaches can benefit each other. We thus investigate a hybrid approach for improving customer demand prediction in SCM. We use a real-world data set to examine the performance by our purposed hybrid approach in this study.

Keyword: Artificial Intelligence (AI), Prediction, Decision Tree, Neural Network, Supply Chain Management (SCM)

Investigation of EaaS-related studies and Kahoot users' learning experiences and preferences

Yuhsin Hung¹, Yachi Li²

¹ Department of Industrial Engineering and Management, National Yunlin University of Science and Technology, Yunlin, Taiwan Email: hungyh@yuntech.edu.tw

Abstract

Cloud computing has brought transformations in various fields, including the educational industry. Cloud-based educational technology has been applied in learning activity, including the course design. Educational cloud-based application is considered as one of the cloud-computing type Education as a Service (EaaS). Recently, the application of EaaS has attracted considerable attention from various educator and researchers. This study surveyed the EaaS-related studies from 2013 to 2019. It investigates the disciplinary distribution of emerging the EaaS-related topics. The findings of this study show that big data, IoT, e-learning, customer satisfaction are the key issues driving researches, which are associated with EaaS. Kahoot is the famous example of EaaS-related application. The participants comprised 70 Kahoot users, who were surveyed regarding their learning experiences, suggestion, technology acceptance (“perceived usefulness” and “perceived ease of use”) regarding use Kahoot. The results showed that female learners have significantly higher “perceived usefulness” than male learner in using Kahoot. Finally, we explored the reasons why learners used Kahoot, and examined the Kahoot users' learning style preference.

Keyword: Cloud computing, Education as a Service (EaaS), Technology acceptance, Learning style

Examining ambidextrous operation in Taiwan semiconductor industry in 2010s

Fen-may Liu¹

¹ Chihlee University of Technology 313, Sec. 1, Wenhua Rd., Banqiao Dist., New Taipei City 22050, Taiwan Email: mayliou@mail.chihlee.edu.tw

Abstract

The present study aims to examine the ambidextrous operation of Taiwan semiconductor firms. Semiconductor, which is capital- and technology-intensive, is one of the industries with rapid changing technology. Semiconductor firms devote in new technologies and products in order to be sustained on the one hand. On the other hand, firms improve manufacturing process to reduce cost and increase net benefits because rapid changing technologies shorten the period for capital recovery. In short, it is more essential than others for semiconductor firms to construct ambidexterity for sustainability. They not only have to invest in research and development (R&D) and make capital expenditure (CAPEX) to support persistent technology upgrading but also to control cost to increase short-term profits. The present study measured exploration activities associated with R&D and capex resources and measured exploitation activities associated with cost of goods sold (COGS) and overhead (SG&A, selling, general and administrative expenses) resources. A difference-in-difference model, which consisted of 143 firms during 2013-2018, examined the relationship between exploration and exploitation with return on equity (ROE). The results showed that (1) all the relationships between ROE with R&D, CAPEX and COGS presented a U shape but that with SG&A is linear; and (2) the relationship between performance and exploration is positive while it is negative between performance and exploitation.

Keyword: ambidexterity, exploitation, exploration, CAPEX, semiconductor industry

A Trend Analysis of the Foreign Workers in Taiwan

Chin-Tsu Chen¹, Jin-Li Hu², An-Li Li³

¹ No. 100, Sec. 1, Fulong Rd., Pingzhen Dist., Taoyuan City 324, Taiwan, National Taipei University of Business, Dept. of Commercial Design and Management, cathy80249@hotmail.com

² No 118, Sec. 1, Chung-Hsiao W. Rd., Taipei City 100, Taiwan, National Chiao Tung University, Institute of Business and Management, jnlihu@g2.nctu.edu.tw

³ No 118, Sec. 1, Chung-Hsiao W. Rd., Taipei City 100, Taiwan, National Chiao Tung University, GMBA
claud0921@gmail.com

Abstract

According to the statistics of the Ministry of Labor, the number of the foreign in 2009 was three hundred and fifty thousand approximately. In the end of 2016, the number of foreign labor in Taiwan even passed over six hundred, which means that the number of foreign workers increased by nearly three hundred thousand in the past seven years, especially the Industrial foreign labor grew the most. This study is focusing on the number of foreign workers from Indonesia, Vietnam, Thailand and the Philippines which are the major labor-sending countries of Taiwan based on the trend analysis method during the interval from 2002 to 2016. In terms of the total number of foreign labor, Indonesia, Thailand and the Philippines are on the rise, except that Thailand has declined year by year. In terms of social welfare industry, Indonesia's social welfare workers have the highest share of 60.67% in average, Vietnam accounted for about 20.56%, the Philippines accounted for about 15.67% and Thailand accounted for about 1.09%; in this category, nursing workers took 98.23% in average which is highest share in 15 years. In terms of industrial labor, Thailand's industrial workers took the highest share in 15 years which is 36.71% of, the total number industrial labor in average, Vietnam accounted for about 24.79%, the Philippines accounted for about 28.39%, Indonesia accounted for about 10.11%; in this category, manufacturing industry took the highest share of 93.19% within 15 years in average.

The government's policy on foreign labor is the main reason for the waning and waxing of its population, and the possibility of the foreign workers' population keep expanding in the near future is high owing to the loosening of the foreign labor policy. The government should consider the policy of foreign workers carefully, they need to avoid making the policy which can only be used on solving the problem temporarily instead of figuring out the perfect answer to the root of the problem, and examine the policy if there is an interest contradiction between the foreign and domestic labor, meanwhile, the stability of diplomatic relations among Taiwan and the four countries should be taken into account.

Keyword: Foreign Labor, Trend Analysis, Industrial Distribution of Foreign labor

Strategic Study of Luxury Goods in the Era of Omni-Channel Retailing

Tzu-Mei Lin¹, Min-Hua Wu², Ying-Chan Tang³

¹ Master Student, National Chiao Tung University, Taipei City, Taiwan, tzumei0122@gmail.com

² Assistant Professor, Chihlee University of Technology, New Taipei City, Taiwan, mhwu8@mail.chihlee.edu.tw

³ Professor, National Chiao Tung University, Taipei City, Taiwan, etang@g2.nctu.edu.tw

Abstract

The shift of consumers accustomed to online shopping is an irresistible trend, and has become a challenge for brand manufacturers. Luxury brands are struggling in a contradiction; they are afraid moving toward online platform may reduce the product value, but if they do not go digitalization would not keep up with the generation tendency and even be caught up by other competitors. How to operate without losing the product value and stay active through the online channel is the research focus. This research uses Adam Smith consumer capitalism to explore the importance of luxury goods to society, explains the brand value from the perspectives of Karl Popper's three world theory, and illustrates Arora's luxury marketing 8Ps to discuss the digital development. Six propositions are proposed for references to maintain luxury brand value and convey the exclusive consuming experience.

Keyword: brand, luxury goods, online channel, three world theory

What do Senior Tourists Like: Designing the Eye-catching Online Advertisement for Senior GPT

Kuo-Ching Wang¹, Ruey-Luen Chen², Wen-Yu Chen³, Junyi Zhang⁴,

Yu-Lung Sung⁵

¹ *Professor*, Graduate Institute of Sport, Leisure, and Hospitality Management, National Taiwan Normal University, 162, Section 1, Heping E. Rd., Taipei City 106, Taipei, Taiwan. Email: gordonwang@ntnu.edu.tw

² *Ph. D.*, Graduate Institute of Business Administration Recreation Management Track, National Chiayi University, Chiayi, Taiwan.

Email: allenchen1129@gmail.com

³ *Associate Professor*, Department and Graduate School of Leisure Management, National Pingtung University, Pingtung City, Taiwan. Email: arielchn@hotmail.com

⁴ *Professor*, Graduate School for International Development and Cooperation, Hiroshima University, Hiroshima, Japan. Email: zjy@hiroshima-u.ac.jp

⁵ *Graduate Student*, Graduate Institute of Recreation, Tourism, and Hospitality Management, National Chiayi University, Chiayi, Taiwan.

Email: omallys.sung@radiant.com.tw

Abstract

The number of senior tourists have been growing exponentially in most recent years. Accordingly, this study aims at exploring the attractive online advertising design components in line with advertising effectiveness, which focus on the senior tourist market. Approach-wise, an experimental design and dual stage data collection are implemented. Totally, 253 and 203 senior tourists were surveyed at the first and second stage, respectively. Afterwards, the attractive webpage design components are identified specifically as follows: 1) large font size at 14pt; 2) black font on white screen background; 3) 2.5x line spacing; 4) enlarged pictures at 155x116 size with dual graphic photos attached. Technically, the findings could benefit the webpage designers and travel agencies that are intended to penetrate the online senior-tourist market, especially, in the Asia Pacific Region.

Keyword: senior tourist; advertising components; advertising effectiveness (AE); group package tour (GPT)

Impact of Compensation, Benefits and Promotion to the Organizational Commitment of Millennial Employees in the Hospitality Industry

Eunice Ann M. Galguerra, Louise E. Punzalan, Alexis John A. Tacotaco,
Dennise Joyce C. Vistan, James Platon
College of Commerce and Business Administration
University of Santo Tomas
España, Manila, Philippines 1015

Abstract

This study examines the impact of compensation, benefits and promotion to the organizational commitment of millennial employees in the hospitality industry, as contingent upon result that would give a clear statement on the attitude of Generation Y or Millennial employees in workplace in the hospitality industry. A total of three hundred and fourteen (314) hospitality industry millennial employees in selected hotels in Metro Manila, Central Luzon, and South Luzon participated in the study using sampling technique. Structural Equation Model (SEM) was used to show the positive, negative effects and the most significant factor among the variables compensation, benefits and promotion in terms of organizational commitment in their company.

Results of the study show that compensation has no impact on organizational commitment, benefits has a significant impact on organizational commitment and lastly, promotion has no impact on organizational commitment but has an effect on both compensation and benefits.

Keywords: Compensation, Benefit, Promotion, Organization Commitment, Millennial

Information Technology Innovation and Bank Performance: Using FinTech as an Example

Yu-Chen Chen¹, Xun-Yi Zhuang², Hsin-Lu Chang³

¹ blazers20736@gmail.com, National ChengChi University, Taiwan

² xunyi0414@gmail.com, National ChengChi University, Taiwan

³ hlchang@nccu.edu.tw, National ChengChi University, Taiwan

Abstract

The term “Innovation” has always been mentioned in a firm because of alternate generations, and even better companies will inevitably fade into the fate of disappearance. Only companies that continue to innovate will not be eliminated. Fintech goes viral on banking and technology industries in recent years. Some studies found that patent quality has a positive impact on stock price or value propositions of a firm. In previous studies, they use patent

Information to measure a firm technology innovation. However, we think that is not precise enough to judge. Therefore, we conduct a model to measure a firm’s innovation by using patent quality and quantity, technology diversity, and technology popularity. Finally, we want to explore whether technology popularity and technology diversity can complement with patent quality and quantity to provide better explanation power for firm performance.

Helping the banking to focus on fintech field and fintech patent and we can understand the relationship of technology innovation and bank performance. Therefore, we can provide managers on the bank industry another perspective and they can take these indicators information as a reference for policy or decision making.

Keyword: Social media, Fintech Patent, Innovation, Bank Performance

Historically inherent institutional logics matters: why do firms respond differently to delegitimation event like irregularly financial restatement

Shih-Chieh Kuo¹, Hui-Chun Huang², Thijs A. Velema³

¹ Ph. D student, Department of Business Administration, National Sun Yat-sen University
K916gogogominuet@gmail.com

² Assistant Professor, Department of Accounting Information, National Taichung University of Science and
Technology

Corresponding author: hch@nutc.edu.tw

³ Assistant Professor, Department of Business Administration, National Sun Yat-sen University
thijs.velema@mail.nsysu.edu.tw

Abstract

Legitimacy status of firms that undergoes irregular financial restatement turn out to be challenged. Such delegitimation event leads to executive replacement as a response to restore their legitimacy back to accepted status. A wealth of studies corroborates turnover rates of top management team (TMT) members, including CEO, CFO or some other TMT member, are significantly higher for firms undergoing irregular financial restatement than firms not experiencing such de-legitimizing events. However, almost no studies explore the puzzle why some firms dismiss CEO, some firms dismiss CFO yet some firms dismiss other TMT members. This study argues that institutional logics of organizational ultimate ownership is critical influence decision of repairing legitimacy crisis. This study suggests that firms who undergo irregular financial restatement and dominated by market logics will dismiss CEO to demonstrate faceless intention of independent board member. For firms dominated by corporation logic, CFO has higher chance to be dismissed because CFO deviates the professional discipline as an employee. For firms dominated by family logics, the likelihood to dismiss non-family executives is higher to sustain family's control. In addition to account for the dismissal puzzle, this study improves our understanding of heterogeneous response that occurs through the moderation effect of suppressed institutional logics on prevailing institutional logics, market logics in particular.

Keyword: Legitimacy, Top Management Team, Institutional Logics, Financial Restatement



2019 ICBEM



Chihlee University of Technology



National Chiao Tung University