

# SOItmC & Meijo University 2019 Conference

## Second IT Revolution, and Dynamic Open Innovation; From Smart City, Autonomous Car, Intelligent Robot, and Block Chain to Sharing Economy

June 28(Fri.) - July 1(Mon.), 2019, Meijo University, Nagoya, Japan

\*July 02(Tue.)~July 07(Sun.), 2019, Open Innovation Academy of SOItmC 2019 Summer School

Society of Open Innovation: Technology, Market, and Complexity (SOItmC) & Meijo University 2019

### Inviting at Fantastic SOItmC 2019

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June 28(Fri.) - July 1(Mon.), 2019, Meijo University, Nagoya, Japan

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(www.openinnovationmc.org)

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Second IT Revolution, and Dynamic Open Innovation; From Smart City, Autonomous Car, Intelligent Robot, and Block Chain to Sharing Economy

Late Registration(\$700); Until May 31th, 2019

\*For students and advantage regions, late registration: \$400

Inviting for Open Innovation Business Model Competition Session & Full Paper Submission: May 31th, 2019

Summer School for SOItmC 2019 participants are free; for non-SOItmC 2019 participants of registration: \$400 & Students : \$200

#### Keynote Speakers(Click, More Information)

 Distinguished Professor at University of Malaya, Malaysia • Distinguished Professor at University of Malaya, Malaysia • Visiting Professor at Lancaster University in 1992 • Distinguished Fellow of Lancaster University in 2014 • Visiting Professor at MIT in 2014 • Presentation Theme: "Building Networks to Harness Open Innovations: Towards a Multi-Front Strategy to Promote Sustainable Development"	 • Professor, University of Turku, Finland • A Steering Group Member of the International Geographical Union(IGU) Global Information Society Commission and Editor-in-Chief of open reviewed quarterly journal Terra, Finland Geographical Journal 88(2014) • Presentation Theme: "Geographies of Disruption and Specialities of Knowledge"	 • Professor, Bergen University College, Norway • Editor of European Planning Studies(EPS) • Editor of the International Journal of Entrepreneurial Behavior Research, Entrepreneurial Decision, In-Process, Myths and Trending Realities
 • Professor, Meijo University, Japan • Visiting Chair of SOItmC & Meijo University 2019 Conference • Author of the Book "Trends and Innovations in Asia" • Presentation Theme: "Transition of Innovation in the Japanese Automobile Industry"	 • Emeritus Professor, Tokyo University, Japan • Former Professor, Aichi Institute of Science University (1991-1999) • Professor, Research Center of Advanced Science and Technology (1994-2003) • Editor of WIT Press • Editor of Research Policy (1993-2003) • Presentation Theme: "How are Demand and Feasibility of Connectivity Articulated?"	 • Professor, Oxford Brookes University, UK • Editor-in-Chief of the Service Industries Journal • Editor of the International Journal of Contemporary Hospitality Management • Presentation Theme: "Social Value Creation through an Enterprise"
 • Professor, University of Hohenheim, Germany • Deputy Head of International Diploma Academy(2011-1) • Visiting Researcher at CRIS at the University of Quebec, Montreal • Presentation Theme: "Productivity Spillovers or Transformation towards Sustainability"	 • Professor, Indian Institute of Management, India • Founder of Honey Bee Network • Presentation Theme: "Giving Voice, Visibility and Velocity to the Creative Ideas: A 30-Year Journey of Honey Bee Network"	 • Tenured Principal Researcher, DGIST, Korea • The founder of Open Innovation Dynamics: The author of Business Model Design Compass • Organizing President of Society of Open Innovation: Technology, Market, and Complexity(SOItmC) • Editor-in-Chief of Journal of Open Innovation: Technology, Market, and Complexity(JOItmC)(Special) • Presentation Theme: "Dynamic Open Innovation with Basic Science: The Way to Sustainable Economy"
 • Associate Professor, Queensland University of Technology, Australia • Editor-in-Chief of International Journal of Knowledge-Based Development • Presentation Theme: "The Making of Smart Cities: Linking Conceptual Development with Practice"	 • FASS at the University of New South Wales, Australia • Former Professor, Jawahar Institute of Technology (2003-2010) • Editor of Research Policy (1993-2003) • Presentation Theme: "Innovations in the National Innovation System: Emerging Innovation Landscape in Asia-Pacific"	 • All keynote speakers' presenting papers will be invited to the journal as special issue (All publications will be supported and funded by SOItmC)

#### Special Sessions(Click, More Information)

<b>Special Session 1. Industrial Alliance and Open Innovation</b> • Chair: Li-Hsien Li(National Tsinghua University of Science and Technology) <b>Special Session 2. Training of Talents for Industrial Human Resource Development</b> • Chair: Naoki Sakahashi(Nagoya University, Japan) <b>Special Session 3. IOT Industrial Cases</b> • Chair: Yuri Sudo(Meijo University, Japan)	<b>Special Session 15. Innovation systems in China, Korea and Japan</b> • Chair: Hyeon K. Jang(Korea University of Incheon & Yung Hee University) & Juhua Chen(Dahe University of Chemical Science, China) <b>Special Session 16. Environmental Innovation and executive communication</b> • Chair: Chul-Hee Lee(National ChungAng University of Education) & Churong He(National Chiao Tung University, Korea)	<b>Special Session 25. Innovation and Entrepreneurship in Management of Technology I</b> • Chair: Sungho Park(Konkuk University, Korea) <b>Special Session 26. Innovation and Entrepreneurship in Management of Technology II</b> • Chair: Churong-Hee Chung(National University of Seoul, Korea)
<b>Special Session 4. The Future of Democratic-Credentialed and State-building Challenges, Obstacles, and Prospects</b> • Chair: Osamu Yamashita(Aichi University, Japan) <b>Special Session 5. Governance Design and Control Open Innovation in Sharing Economy</b> • Chair: Jinyoung Joseph Yun(DGIST, Korea) <b>Special Session 6. Social Innovation and Social Enterprise</b> • Chair: Ting-Chia Hsieh(National Tsinghua University) <b>Special Session 7. Global Digital Innovation and Intellectual Property</b> • Chair: Yang Chang(ChungAng University, Denmark) & Ben Zhong(Tsinghua University of Science & Technology, China) <b>Special Session 8. Innovation University for Emerging Economies</b> • Chair: Nabila Lucifora(Technical University, Latvia)	<b>Special Session 17. Urban Management</b> • Chair: Myunggil Do(ChungAng National University, Korea) <b>Special Session 18. Sustainable transition of industrial ecosystems: the experience from China</b> • Chair: Jimin Wu(Tsinghua University, China) <b>Special Session 19. Efficiency Issues from the Open Innovation Perspective</b> • Chair: Daesoo Kim(KyungPook University, Korea) <b>Special Session 20. Co-creation design</b> • Chair: Seung-Kwon Kim(National Institute of Technology, Korea) <b>Special Session 21. Open innovation analysis</b> • Chair: Eun-Soo Jeong(Korea Institute of Science and Technology Information, Korea) <b>Special Session 22. 4th Industrial Revolution</b> • Chair: Minhee Lee(KERI, Korea)	<b>Special Session 27. Opportunities and Challenges of Public Sector in the Intelligent Society</b> • Chair: Donggook Kim(ChungAng National University, Korea) <b>Special Session 28. Regional Innovation to resolve regional challenges</b> • Chair: Byoung-Ho Kim(ChungAng National University, Korea) <b>Special Session 29. Green Governance</b> • Chair: Weon-Lik Park(KyungPook National University, Korea)
<b>Special Session 9. Innovation Management Modelling</b> • Chair: Yeha Shin(Seoul National University, Korea) <b>Special Session 10. Sustainable System Development for Economic, Social Value, and Green Innovations</b> • Chair: Min-Ren Yen(ChungAng National University, Korea) <b>Special Session 11. Open Innovation, Business Model Development, and Strategic Management</b> • Chair: Min-Ren Yen(ChungAng National University, Korea) <b>Special Session 12. Innovation ecosystem and policy</b> • Chair: Li-Ming Liu (Fudan University, China) & Jinyoung Joseph Yun (Meijo University, Japan) <b>Special Session 13. How to respond to dynamic social change through education</b> • Chair: Sang-Oh Kim (Korea University, Korea) <b>Special Session 14. Innovation effect by the 4th industrial revolution</b> • Chair: Sang-Oh Kim (Korea University, Korea)	<b>Special Session 23. What are the factors impeding operational performance? Enterprise's insight, knowledge management practices</b> • Chair: Junghyun Nam(Neomaru University, Korea) & Sanghyun Song(SungSung University, Korea) <b>Special Session 24. Innovation, Public Mix, and Digital Technology</b> • Chair: Kyeonggi Jung(ChungAng National University, Korea) <b>Special Session 25. Resilience Towards Sustainability</b> • Chair: Sang-Oh Kim(Les Roches Woburn University, Korea) <b>Special Session 26. Entrepreneurial Opportunities</b> • Chair: Chang-Soo Song (SungSung University, Korea) & Joo-Yeon Park(Konkuk University, Korea) <b>Special Session 27. Innovation and Convergence</b> • Chair: Jinyoung Joseph Yun(Meijo University, Korea) <b>Special Session 28. Does Smart cities become new growth engine of future living?</b> • Chair: Junghyeon Han(KyungPook University, Korea) & Changhwan Shim(Yangseong National University, Korea)	<b>Special Session 30. Innovation and Entrepreneurship in Management of Technology III</b> • Chair: Sungho Park(Konkuk University, Korea) <b>Special Session 31. Dynamic of Open Innovation in Biomedical Industry#1</b> • Chair: Eunghye Kim(ChungAng National University, Korea) <b>Special Session 32. Dynamic of Open Innovation in Biomedical Industry#2</b> • Chair: Kwangsoo Shim(ChungAng National University, Korea) <b>Special Session 33. Technology Innovation</b> • Chair: Tae-Cung Sung(Noroh University, Korea) <b>Special Session 34. Innovation Management and Strategy</b> • Chair: Jaesik Kim(Konkuk National University, Korea) <b>Special Session 35. Second IT Revolution and University Innovation</b> • Chair: Donggook Lee (DGIST, Korea) <b>Special Session 36. Dynamic of Open Innovation</b> • Chair: Kwangsoo Shim(ChungAng National University, Korea) & Kwangsoo Shim(ChungAng National University, Korea) <b>Special Session 37. Opportunities and Challenges of Public Sector in the Intelligent Society</b> • Chair: Donggook Kim(ChungAng National University, Korea)

#### Special Issue Journals(Click, More Information)

<b>Journal of Open Innovation: Technology, Market, and Complexity(SOItmC)</b> • Editor-in-Chief: Jinyoung Joseph Yun(jy@meijo.ac.jp) • Managing Guest Editor: Jinyoung Joseph Yun & Co-Guest Editor: Yuri Sudo(yusudo@cc.mie.ac.jp) • Keynote speakers' papers & best award papers will be invited to the journal. • Editor-in-Chief: Lewell Atkinson(atkinson@brookes.ac.uk) • Managing Guest Editor: Jinyoung Joseph Yun(jy@meijo.ac.jp) & Co-Guest Editor: Lewell Atkinson(atkinson@brookes.ac.uk), Len Neuhoff(neuhoff@meijo.ac.jp), Nabila Lucifora(lucifora@meijo.ac.jp)	<b>Designated General Issue Journals</b> • European Planning Studies(EPS) • Editor-in-Chief: Philip Cooke(cooke@bergen.ac.no) • Designated Reviewer: Jinyoung Joseph Yun(jy@meijo.ac.jp) • Science, Technology and Society(STS) • Editor-in-Chief: Yeha Shin(shin@meijo.ac.jp) • Designated Reviewer: Jinyoung Joseph Yun(jy@meijo.ac.jp) • Journal of Evolutionary Economics(JEE) • Editor-in-Chief: Uwe Cantner(uwe.cantner@uni-jena.de) et al. • Designated Reviewer: Jinyoung Joseph Yun(jy@meijo.ac.jp) • Technological Forecasting and Social Change(TFSC) • Editor-in-Chief: Philip Cooke(cooke@bergen.ac.no) • Designated Reviewer: Jinyoung Joseph Yun(jy@meijo.ac.jp)	<b>For more information, please contact</b> • Hosting Chair: Prof. Yeha Shin(Meijo University of Japan) • Contact: ashin@meijo.ac.jp, +81-53-838-2529 • Mobile: +81-90-8940-5382 • Hosting Office: Prof. Dr. Yeha Shin(Meijo-Asein Research Center, Meijo University, Japan), meijocrc@meijo.ac.jp & Dr. Chul-Hee Lee(ChungAng National University, Korea) • Address: Meijo Asein Research Center, Meijo University, 1-501 Shiogajoguchi, Tenryu, Nagoya 466-8502, JAPAN • Organizing Chair: Prof. Dr. Jinyoung Joseph Yun (Professor of Open Innovation Academy, President of SOItmC and Editor-in-Chief of JOItmC, Tenured Principal Researcher, DGIST, Korea) • Contact: jy@dgist.ac.kr, +82-53-785-4410 • Mobile: +82-10-6997-8355 • Organizing Office: SOItmC, Secretariat: Prof. Dr. WAKUPEI ZHANG (Professor of Open Innovation Academy, Senior Researcher of DGIST, Korea) • Contact: openinnovation@dgist.ac.kr, +82-53-785-4414 • Mobile: +82-10-4072-8595 • Address: 233 Techno Jungang-dong, Yuseong-gu, Daejeon, 30538, Korea
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#### SOItmC Open Innovation Academy 2019 Summer School(Click, More Information)

The full version(about 4,000 pages) of proceeding can be downloaded in SOItmC homepage from June 26, 2019.

\*Only the SOItmC 2019 participants with registration could download the proceedings by logging in.

- *Organized by Society of Open Innovation: Technology, Market, and Complexity*
- *Hosted by Meijo University, Nagoya, Japan*
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PROGRAMME OF  
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**Society of Open Innovation: Technology, Market, and Complexity  
(SOItmC) & Meijo University 2019**



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## Welcoming Speech by the Organizing President of SOItmC

**-Prof. Dr. JinHyo Joseph Yun**

I am so happy to meet you, Honor Professor Fumio Kodama, Philip Cooke, Anil Gupta, Venni Krishna, Rajah Rasiah, Akihiro Ohara President of Meijo university, and my heart colleague professors Tan, Pyka, and Altinay in addition to all honor professors, researchers, students, and entrepreneurs who are at this Meijo University, Nagoya Japan where is the hometown of world number-one automotive company Toyota. Thanks a lot, to the hosting chair, Professor Yuri Sadoi, and all Nagoya colleagues for preparing this fantastic conference.

The theme of SOItmC 2019 conference is “Second IT Revolution, and Dynamic Open Innovation; From Smart City, Autonomous Car, Intelligent Robot, and Block Chain to Sharing Economy”(Lee et al., 2018). To answer to this research question, more than 240 papers or business models from 157 universities and institutions of diverse countries will be presented. In addition, you should not miss world top 11 professors’ keynote speech and summer school lectures which will answer to our research question deeply.

The role of business model in market growth in the autonomous car, smart city, and sharing economy related industries is bigger than technology even though in intelligent robot, or block chain industries, the importance of technology is bigger than business model in the second IT revolution(J. J. Yun, Won, & Park, 2018; J. J. Yun, Won, Park, Jeong, & Zhao, 2019). Let us maximize the benefits of open innovation and minimize the cost of closed innovation with motivating the entrepreneurial cyclical dynamics of open innovation to respond to the growth limits of capitalism in the 2<sup>nd</sup> IT revolution era(J. Yun, Jeon, Park, & Zhao, 2018; J. J. Yun, 2015).

Tomas More wrote at his book [Utopia] like that “people in Utopia do not understand people who are proud of their shining clothes, or flatter rich person”. We need open innovation culture with which people do not close themselves to other classes like people in Utopia.

MaZeo Baso who is the father of Japan poetry, so to say HahiKu, toured all-around of Japan, and did open connection with diverse people from all classes during all his life from 1644-1694. He is the founder of open innovation spirit of Japan. He wrote “In the winter cold wind, I became the terrible all-round doctor” when he visited Nagoya. I think that the spirit of Baso became the source of the open innovation dynamics of Toyota, and a lot of Japan firms.

Mont Pelerin Society which was built by Friedrich Hayek, and Milton Friedman on 1947 with small group of 40 scholars conquered the world economic theory against Keynes and Karl Marx(Bregman, 2017). The society produced the 8 Nobel economy prize winners, and destroyed US and UK economy totally, and is destroying Korea Economy now (Burgin, 2012). I really expect that SOItmC will rescue capitalism from the growth limits, polarization, and unemployment in 30 years.

The Palme d’Or, the Cannes festival’s highest prize of 2019, was awarded to the Korean film

“Parasite” directed by JunHo Mong on May 25<sup>th</sup>. This movie warns the polarization of classes in capitalism. I expect that a lot of creative solutions to treat the polarization of capitalism with open innovation dynamics will be proposed at SOItmC 2019.

Let us enjoy SOItmC 2019 conference, and the beauty of Nagoya together from right now.

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June 29<sup>th</sup>, 2019

**JinHyo Joseph Yun Ph. D.** 

The Founder, and Organizing President of SOItmC 2019

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## Welcoming Speech by Meijo University Hosting Chair

-Prof. Yuri Sadoi

Welcome all the participants of the 4th international conference SOItmC & Meijo University 2019 Conference. On behalf of the organizing committee, I welcome you in Meijo Asian Research Institute and the Faculty of Economics, Meijo University Japan. It is our privilege to host this event at Meijo University in Nagoya Japan.

Nagoya, with a population over 2.2 million, is located almost at the center of Japan. It has grown into one of three major metropolitan regions (Tokyo, Osaka, and Nagoya) as a base for business and commerce and the hub of manufacturing industry in Japan. Greater Nagoya, centralized in Nagoya City, is the hub of Japanese manufacturing industries, producing over 40% of major manufacturing categories such as automobiles, automobile parts, machine tools and aircraft parts, and exerts its role as a strong leader in the Japanese economy. Many excellent companies that are also top-ranked globally are active in this region, which is therefore home of innovative clusters of small and medium-sized companies with the superior technical capabilities to provide broad-based support for those companies.

Innovative culture has been incubating and cultivating for many years in this area, especially known as lean production system “TPM” and “kaizen”. Several open innovation hubs, platforms, and groups within cooperative groups as well as open sources of voluntary people are very active. Those continuous improvement and innovation of the people create competitiveness of business and community.

We are honored to receive many distinguish scholars here in Nagoya and share the knowledge to facilitate mutual development of research and society of open innovation. We hope the conference will be a fruitful exchange and discussion of scientific findings and innovation for further collaboration.

We hope you to have pleasant and enjoyable stay in Japan.

**Prof. Dr. Yuri Sadoi**

*Hosting Chair of SOItmC & Meijo University 2019*

Faculty of Economics

Meijo University

June 29, 2019

## **Congratulatory Speech by the President of Meijo University**

**-Prof. Akihiro Ohara**

On behalf of Meijo University, I welcome you to the SOItmC & Meijo University 2019 international conference. We are privileged to host this event this time at Meijo University.

Meijo University is a private university located in Nagoya, Aichi Prefecture, Japan. Meijo University consisting of 9 faculties (23 departments) and 10 graduate schools is the largest private university in Central Japan region. The total number of students (both undergraduate students and graduate students) is 15,000, and over 190,000 graduates have been serving on the front line in various fields of society.

By pursuing high quality education, research work, and social contribution, we value continuous learning throughout our lives. Encouraged by the Nobel Prize in Physics 2014 on blue LED by Dr. Isamu AKASAKI, Meijo University Professor, Meijo University keeps offering vibrant and lively learning opportunities for local and global community.

Our future society will encounter rapid globalization accelerated by development of technology, especially, information and communications technology, which may change the economic system, industrial structure, and further cultures. In anticipation of the drastically changing society, we have formulated the medium/long-term plan envisaging creation of "Learning Community" for offering all our students various experiences for their enriched lives by cooperation of professors, staffs, and graduates to fulfil the mission of Meijo University as the private university. We have been promoting creation of various opportunities of learning, and creating the environment to achieve the goal.

For achieving this goal, open innovation is one of the most important issues. Hosting this international conference of open innovation, SOItmC & Meijo University 2019, is the great opportunity meeting and sharing ideas with many distinguished academics from all over the world.

We wish you have a great and fruitful conference in Nagoya Japan.

**Prof. Akihiro Ohara**

President of Meijo University

June 29, 2019



## **Congratulatory Speech by the Mayor of Daegu Metropolitan City Government**

**- Mr. YoungJin Kwon**

I am YoungJin Kwon, I am in the 2nd Mayor period of Daegu Metropolitan City  
Congratulation 2019 SOItmC (Society of Open Innovation; Technology, Market, and  
Complexity, [www.openinnovationtmc.org](http://www.openinnovationtmc.org)) conference in Meijo University, which was started at  
DGIST in Daegu by JinHyo Joseph Yun from 2015.

Like the goal of SOItmC is “Let us conquer the growth limits of capitalism”, Open innovation  
with convergence and fusion will be the new breakthrough for the growth of Daegu City Economy.

I also did the welcome greeting at the SOItmC 2015 as the mayor of Daegu City. After that,  
SOItmC has been growing up as world top Society which invited more than 250 papers or  
business models from nearly 160 universities or research institutes from nearly more than 30  
countries in 2019.

Now, SOItmC 2019 is inviting diverse and creative professors and researchers from a lot of  
great universities of Korea such as Seoul National University, Korea University, Yonsei  
University, KAIST, POSTECH, DGIST, Keimyung University, HanYang University, KISTI,  
KISTEP, YeungNam University, KonKuk University et al.

In addition, SOItmC 2019 is also inviting professors and researchers from nearly all continents  
universities or research institutes such as Tsinghua University, Toyoko University, Oxford  
university, Cardiff University, University of Hohenheim, University of Queensland Technology,  
Oklahoma University, Saint Joseph University et al.

I really congratulate again SOItmC 2019 at Meijo University on June 28th– July 1st with the  
fantastic topic such as “2nd IT revolution and dynamic open Innovation; from Smart City,  
Autonomous Car, Intelligent Robot, and Block Chain to Sharing Economy”.

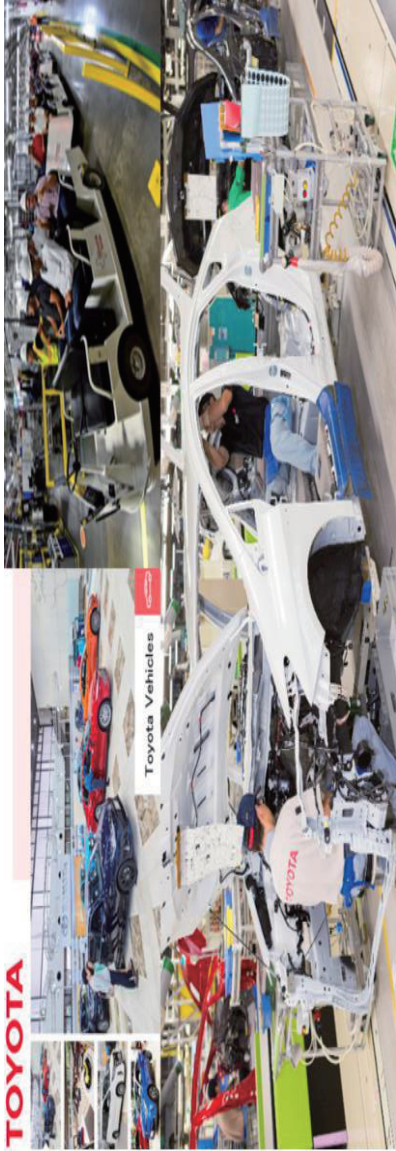
I want to host SOItmC at Daegu in the near future with all honor professors and researchers  
from world-wide.

June 29th, 2019

**YoungJin Kwon**

Mayor, DAEGU Metropolitan City Government



Programs	
6. 28(Fri.)	<p><b>Time</b></p> <p>08:30~14:30</p> <p><b>Venue:</b> Industry Visiting "Toyota Plant Tour &amp; Toyota Kaikan Museum" &amp; North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市天白区堀釜口一丁目501番地))</p> <p style="text-align: center;"><b>Industry Visiting (Toyota Plant Tour &amp; Toyota Kaikan Museum)</b></p> <p style="text-align: center;"><b>Presiders:</b> Xiaofei Zhao(DGIST, Korea), SHAPOSHNIKOV Sergei(Lomonosov Moscow State Univ., Russia)</p> <div style="text-align: center;">  </div> <p>1. (Sir Winston Hotel → Meijo University(Library front parking lot) → Toyota Plant Tour &amp; Toyota Kaikan Museum) The bus departure</p> <ul style="list-style-type: none"> <li>• 08:20 at main gate of Sir Winston Hotel (100-36 Yagotohonmachi, Showa-ku, Nagoya City, Aichi 466-0825, Japan)</li> <li>• 08:30 at Meijo University(Library front parking lot) (1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan))</li> </ul> <p>2. •10:00~12:00 Toyota Plant Tour &amp; Toyota Kaikan Museum;</p> <ul style="list-style-type: none"> <li>•12:00~12:30 Q&amp;A time;</li> <li>•12:30~13:30 Lunch time</li> </ul> <p>* Lunch box &amp; water will be provided.</p> <p>3. 13:30~14:30 (Toyota Plant Tour &amp; Toyota Kaikan Museum → Meijo University) *If we have free time, we will visit the Nitori(Japan IKEA) for 30 minutes.</p> <p>4. Only for the First 50 applicants who had sent the applications can participate in the tour. Contact: <a href="mailto:openinnovationtmc@dgist.ac.kr">openinnovationtmc@dgist.ac.kr</a> or Skype id: qiaoke@dgist.ac.kr</p>

Welcome Reception + Preliminary Registration			
15:00~16:00	<p>* Venue: 5<sup>th</sup> Floor Registration Desk (in front of the room of N503 &amp; N504), North Lecture Hall</p> <p>• Coffee and dessert will be provided in N513, North Lecture Hall</p>		
16:00~17:30	<p><b>Keynote Speech 1</b> (16:00~16:30) <b>Andreas Pyka</b> (University of Hohenheim, Germany) • Theme: Productivity Slowdown, Exhausted Opportunities and the Power of Human Ingenuity - Schumpeter meets Georgescu-Roegen</p> <p>• Venue: Room. N301, North Lecture Hall</p> <p>* Presiders: <b>Oganisjana, Karine</b>(Riga Technical University, Latvia), <b>Junghyun Yoon</b>(Yeungnam University, Korea)</p>		
	<p><b>Keynote Speech 2</b> (16:30~17:00) <b>Yuri Sadoi</b> (Meijo University, Japan) • Theme: Historical Analysis of Open Innovation in the Japanese Automotive Industry</p> <p><b>Keynote Speech 3</b> (17:00~17:30) <b>Tommi Inkinen</b> (University of Turku, Finland) • Theme: Port Digitalization with Open Data: Challenges, Opportunities, and Integrations</p>		
17:30~18:00	<b>Break Time</b>		
18:00~19:30	<b>N301</b>	<b>N501</b>	<b>N503</b>
	<p><b>Session</b> <b>IoT Innovation cases in Japanese companies</b> Chair: Yuri Sadoi(Meijo University, Japan)</p> <ul style="list-style-type: none"> <li>• Paper 1: "Creating Flow for the Shorter Lead Time-SCCC to Support "Productivity Revolution" by <b>Makoto Kawada</b></li> <li>• Paper 2: "Social Innovation by Japanese university students and alumni networks" by <b>Katsunobu Motoda, Kentaro Ono, Koya Nabeno, Takuya Iwamoto, Rikuya Mizuno, Wu Jun, Satoshi Hosokawa &amp; Yusuke Tanaka</b></li> </ul>	<p><b>Session</b> <b>Innovation Diversity for Emerging Economies</b> Chair: Natalja Lace(Riga Technical University, Latvia)</p> <ul style="list-style-type: none"> <li>• Paper 1: "Achieving Sustainability in the Construction Supervision Process" by <b>Svetlana Mjakuškina*, Maija Kavosa &amp; Inga Lapina</b></li> <li>• Paper 2: "The Role of Network in Improving Innovative Performance: Based on the Service Firms" by <b>Dae-su Kim, Sanghyun Sung &amp; Junghyun Yoon*</b></li> <li>• Paper 3: "Identification of opportunities for innovations through collecting problems from citizens" by <b>He Soung Ahn</b></li> </ul>	<p><b>Session</b> <b>Dominant Design and Crowd Open Innovation in Sharing Economy</b> Chair: JinHyoo Joseph Yun(DGIST, Korea)</p> <ul style="list-style-type: none"> <li>• Paper 1: "Dominant Design, and Evolution of Electronic Bicycle-Comparative analysis of 3 cases, Daegu South Korea, Naples, Italy, and Nagoya, Japan" by <b>JinHyoo JosephYun*, Xiaofei Zhao, KyungBae Park, Yuri Sadoi &amp; Giovanna Del Gaudio</b></li> <li>• Paper 2: "Entrepreneurial universities: cases from Taiwan" by <b>Jonathan C. Ho</b></li> <li>• Paper 3: "Sustaining the family business through open innovation: Focusing on technological acquisitions" by <b>He Soung Ahn</b></li> </ul>
	<p><b>Session</b> <b>How to respond to dynamic social change through education</b> Chair: Park Hang Sik(Eulji University, Korea)</p> <ul style="list-style-type: none"> <li>• Paper 1: "Development of education model for improving collaboration creativity-Based on the online learning system (Moodle)" by <b>Eun-Joo Kim &amp; Hang-Sik Park*</b></li> <li>• Paper 2: "Dynamic eco-efficiency evaluation: An innovation perspective of sustainable development" by <b>Sheng-Wei Lin*, Wen-Min Lu &amp; Tzu-Yi Fang</b></li> <li>• Paper 3: "Graduate school education for regional innovation" by <b>Norihiro Nishimura</b></li> </ul>	<b>N504</b>	

	<ul style="list-style-type: none"> <li>• Paper 3: "The roles of business network centralities on firm performance: An explorative study in Tokyo manufacturing" by <b>Zhao An &amp; Antonio K.W. Lau</b></li> <li>• Paper 4: "Effect of partnership quality on SMEs success: Mediating role of coordination capability and organizational agility" by <b>Hsian Ming Liu &amp; Cheng Lun Lee*</b></li> <li>• Paper 5: "The role of media pattern in the knowledge collaboration: focusing on the online space" by <b>Jiyoon Chang, Junseok Hwang &amp; Namjun Cha*</b></li> <li>• Paper 6: "How to overcome Uncertainty?: Impact of public alliance on uncertainty in the pharmaceutical industry" by <b>EungdoKim*</b></li> </ul> <p><b>Honor Discussor: Yuri Sadoi</b></p>	<p><b>Oganisjana, Karine* &amp; Kozlovskis, Konstantins</b></p> <ul style="list-style-type: none"> <li>• Paper 4: "A Repository Architecture for the Start-up Business Process" by <b>Hokyeom Kim, Junghyun Yoon &amp; Sanghyun Sung*</b></li> <li>• Paper 5: "Why They Go There: Maslow's Hierarchy of Needs and Revisit Intention" by <b>Yingyueh Su &amp; Yusheng Yu</b></li> <li>• Paper 6: "Exploring the Enablers of Strategic Orientation for Technology-driven Business Innovation Ecosystem" by <b>Ta-Kai Yang &amp; Min-Ren Yan</b></li> </ul>	<ul style="list-style-type: none"> <li>• Paper 4: "Green Governance Responsibility, Corporate governance and Investors' Reaction" by <b>Weian Li, Guangyao Cui, Minna Zheng* &amp; Yaowei Zhang</b></li> <li>• Paper 5: "Open Innovation Ecosystem of Restaurants- Comparative case study of successful restaurants of Italy, South Korea, and North Korea" by <b>JinHyoseph Yun*, Xiaofei Zhao, KyungBae Park, Valentina Della Corte &amp; Giovanna Del Gaudio</b></li> <li>• Paper 6: "Green governance: connotation and block chain based implementation" by <b>Runhui Lin*, Yuan Gui, Lun Wang &amp; Biting Li</b></li> </ul> <p><b>Honor Discussor: Andreas Pyka</b></p>	<ul style="list-style-type: none"> <li>• Paper 4: "Regional innovation by a public health nurse who started business in Japan" by <b>Kazumasa Igura</b></li> <li>• Paper 5: "An analysis of converged core capacity affecting team creativity of industrial workers" by <b>Eun-Joo Kim &amp; Hang-Sik Park*</b></li> <li>• Paper 6: "Influential Factors Driving Entrepreneurs for Agricultural Cooperatives in Thailand" by <b>Tipasuk Jaratjassada &amp; Bob McClelland</b></li> </ul> <p><b>Honor Discussor: Tommi Inkinen</b></p>
19:30~	<p style="text-align: center;"><b>Invited VIP Dinner by the president of SOItmC</b></p> <p style="text-align: center;"><b>*Presiders: KwangHo Jung(Seoul National University, Korea), Nataja Lace(Riga Technical University, Latvia)</b></p> <ul style="list-style-type: none"> <li>• Venue: Sushi Tetsu(Shuttle bus will wait from 19:20 at the Library front parking lot Meijo University)</li> <li>* Address: *2 Chome-1405 Ōtsubo, Tempaku-ku, Nagoya-shi, Aichi-ken 468-0072, Japan(愛知県 名古屋市天白区 大坪 2-1405); +81-52-832-6900</li> <li>*We will contact the invited VIPs separately.</li> <li>* VIP dinner is for mutual thanks between the Organizing &amp; Hosting team about organizing SOItmC 2019 (In addition with honor keynote speakers and Registered Directors).</li> </ul>			

6. 29(Sat.)	*Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市中区塩釜一丁目 501 番地))			Registration Desk 5th Floor
Time	N301	N501	N503	N504
08:00~09:00	<b>Registration</b>			
09:00~10:30	<p><b>Session</b>  <b>Innovation systems in China, Korea and Japan</b>            Chairs: Antonio K.W. Lau(Kyung Hee University, Korea) &amp; Kaihua Chen(University of Chinese Academy of Sciences, China)</p> <ul style="list-style-type: none"> <li>Paper 1: "International innovation collaboration in China" by <b>Kaihua Chen, Ze Feng, Xiaolan Fu* &amp; Yi ZHANG</b></li> <li>Paper 2: "Measuring National Innovative Force From An Innovation Value Chain Perspective" by <b>Yuchen Li, Antonio K.W.Lau, Kaihua Chen* &amp; Yi Zhang</b></li> <li>Paper 3: "The Suggestion of the Toyota production system using IoT by <b>JTEKT</b>" by <b>Yusuke Tanaka</b></li> <li>Paper 4: "Challenges of Governmental Policy Changes In Myanmar Higher Education Development" by <b>Ye Tun Min</b></li> <li>Paper 5: "Beijing as a Regional Innovation System: a case study"</li> </ul>	<p><b>Session</b>  <b>What are the factors improving organizational performance?: Entrepreneurial, Innovative, Knowledge Management Perspectives</b>            Chairs: Junghyun Yoon(Yeungnam University, Korea) &amp; Sanghyun Sung(POSTECH, Korea)</p> <ul style="list-style-type: none"> <li>Paper 1: "What are the Characteristics of Entrepreneurial Business Process?" by <b>Sanghyun Sung &amp; Junghyun Yoon*</b></li> <li>Paper 2: "Professional Competence Assessment as a Key Element of Sustainability and Risk Prevention: Case of Construction Industry" by <b>Maija Kavosa*, Svetlana Mjakuškina &amp; Inga Lapina</b></li> <li>Paper 3: "An Effectiveness of Start-up Intention on Adversity Quotient and Entrepreneurship" by <b>Dae-su Kim &amp; Junghyun Yoon*</b></li> </ul>	<p><b>Session</b>  <b>Green Governance</b>            Chair: Weian Li(Nankai University &amp; Tianjin University of Finance and Economics, China)</p> <ul style="list-style-type: none"> <li>Paper 1: "Opening the 'black box': The mechanism and effects of board power hierarchy to green governance performance-moderated by the corporate mission" by <b>Feiran Dong, Yongzhen Xie* &amp; Linjun Cao</b></li> <li>Paper 2: "Unified Model of Sharing Economy and National Strategy" by <b>Yeji Kim &amp; Minhwa Lee*</b></li> <li>Paper 3: "Business model and open innovation of car sharing industry- Diversity among Uber of US, DiDi-Chexing of China, and Kakao-T of Korea" by <b>JinHyoseph Yun*, Xiaofei Zhao, JinXi Wu, John C. Yi, KyungBae Park, WooYoung Jung</b></li> </ul>	<p><b>Session</b>  <b>Regional innovation to resolve regional challenges</b>            Chair: Norihiro Nishimura(Mie University Regional Area Strategy Center, Japan)</p> <ul style="list-style-type: none"> <li>Paper 1: "Regional innovation by new type leapfrogging" by <b>Norihiro Nishimura* &amp; Haruki Odajima</b></li> <li>Paper 2: "The necessity of esthetic education to improve the elderly happiness index of Korea" by <b>Kyu-Ok Shin, Na-Gyeong Yeom &amp; Hang-Sik Park*</b></li> <li>Paper 3: "A Study on the Impact of the Government's Balanced Development Policy on Regional Competitiveness: Focusing on Manufacturing Industry" by <b>Maeng, Cheol-Kyu &amp; In-Jong Lim</b></li> <li>Paper 4: "Evaluating Determinant Priority of Licensing deal inBio-pharmaceutical Industry" by <b>Hee-</b></li> </ul>

6. 29(Sat.)	<p><b>*Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan)(〒468-8502 名古屋市天白区塩釜一丁目501番地)</b></p>			
<p><b>Programs</b></p>	<p>by <b>Meijiao Huang, G.S. Shin &amp; Antonio K.W. Lau</b></p> <ul style="list-style-type: none"> <li>• Paper 6: "The Effect of Innovation Capabilities on Business Performance: Focused on IT and Business Service Companies" by <b>SeungHoo jin &amp; SangOk Choi</b></li> </ul> <p><b>Honor Discusser: Levent Altinay</b></p>	<ul style="list-style-type: none"> <li>• Paper 4: "Let's Consume the Green to Save the Environment!- A Comparative and Critical Discursive Perspective on Green Advertisings" by <b>Liu Shubo, Min-Ren Yan &amp; Anqi Song</b></li> <li>• Paper 5: "Research on the Competition Strategy of Case Company Lithium Battery Safety Materials Entering International Market" by <b>Wei-Chuan Wang, Chi-Hsuan Lin &amp; Hsiu-Chi Chang*</b></li> <li>• Paper 6: "Sustainability and Continuous Improvement of Organization: Review of Process-Oriented Performance Indicators" by <b>Aija Medne* &amp; Inga Lapina</b></li> </ul>	<ul style="list-style-type: none"> <li>• Paper 4: "Research on product design governance mechanism of sustainable transformation" by <b>Jingjing Li, Yongjian Li &amp; Ying Ye</b></li> <li>• Paper 5: "Self-organizing Smart City 4.0 model based on urban evolution" by <b>Yeji Yun &amp; Minhwa Lee*</b></li> <li>• Paper 6: "Collective Intelligence; emerging world in open innovation" by <b>JinHyio Joseph Yun*, Euseob Jeong*, Xiaofei Zhao, SungDeuk Hahm &amp; Kim KyungHun</b></li> </ul>	<p><b>eun Min, Eungdo Kim* &amp; KwangsooShin*</b></p> <ul style="list-style-type: none"> <li>• Paper 5: "A Study on the Factors Influencing Public Technology-based Start-ups" by <b>Injong Lim, Jeonghwan Lee &amp; Maeng, Cheol-Kyu</b></li> <li>• Paper 6: "Is the GroupthinkReally inevitable fiasco?: based on the self-organized perspective" by <b>Namjun Cha* &amp; Junseok Hwang</b></li> </ul>
10:30 ~ 11:00	<p>Coffee Break      ★ <b>Coffee and dessert will be provided in N513.</b></p>			
	<p><b>Welcoming Speech by the Organizing President of SOItmC - Prof. Dr. JinHyio Joseph Yun (11:00~11:05)</b></p> <p style="text-align: right;">•Venue: Room. N301, North Lecture Hall;</p>			
	<p><b>Welcoming Speech by the Meijo University Hosting Chair - Prof. Yuri Sadoi (11:05~11:10)</b></p>			
	<p><b>Congratulatory Speech by the President of Meijo University - Prof. Akihiro Ohara (11:10~11:15)</b></p>			
11:00 ~ 12:50	<p><b>Congratulatory Speech by the Mayor of Daegu Metropolitan City Government- Mr. YoungJin Kwon (11:15~11:20)</b></p>			
	<p><b>Keynote Speech 4 (11: 20~11:50) JinHyio Joseph Yun(DGIST, Korea)</b> •Theme: Basic Income with high open innovation dynamics-The way to entrepreneurial state</p>			
	<p><b>Keynote Speech 5 (11:50~12:20) Levent Altinay(Oxford University, UK)</b> •Theme: Changing Global Landscape: Global Challenges and Opportunities for Innovation</p>			



6. 29(Sat.)	<p><b>Programs</b></p> <p><b>*Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市天白区塩釜口一丁目 501 番地))</b></p>	
12:50~14:30	<p><b>Keynote Speech 6 (12:20~12:50) Tan Yigitcanlar</b>(Queensland University of Technology, Australia) •Theme: Disruptive Impacts of Automated Driving Systems on the Built Environment and Land Use: An Urban Planner's Perspective</p>	
14:30~16:00	<p><b>* Lunch will be provided at the Basement-B1 floor of the North Lecture Hall.</b></p> <p><b>* Lunch Meal ticket will be delivered at the registration desk at the 08:00~09:00 &amp; 10:30~11:00.</b></p>	
<p><b>Session</b></p> <p><b>Innovation effect by the 4th industrial revolution</b> Chair: Sang Ok Choi (Korea University, Korea)</p> <ul style="list-style-type: none"> <li>Paper 1: "What Determines Organizational Innovation in Public Sector?" by <b>GyeongMin Nam &amp; SangOk Choi</b></li> <li>Paper 2: "The transitional analysis of the open Innovation business model of the Japanese automobile industry" by <b>Yuri Sadoi</b></li> <li>Paper 3: "The study on the effect of patent retrieval behavior on market awareness of teachers in the technical and vocational colleges and universities" by <b>Lo, Chih-Cheng*; ChiaoLing Wang &amp; Peng, Hsiao-Yun</b></li> <li>Paper 4: "Digital Innovation adoption &amp; its economic impact" by <b>HyunJee Park &amp; SangOk Choi</b></li> </ul>	<p><b>Session</b></p> <p><b>Sustainable System Development for Economics, Social Value, and Green Innovations &amp; Open Innovation Ecosystem, Business Model Development, and Strategic Management</b> Chairs: Min-Ren Yan(Chinese Culture University) &amp; Li Kun(Nanjing Audit University, China)</p> <ul style="list-style-type: none"> <li>Paper 1: "A Strategic Architecture of Sustainable System Development Education for Industry, Innovation, and Global Value Creation with SDGs" by <b>Min-Ren Yan</b></li> <li>Paper 2: "Analysis on Topic Trends of Open Innovation using Topic Modeling" by <b>Joong Hoon Ko &amp; Dae Cheol Kim*</b></li> <li>Paper 3: "Integration of Kano's Model into QFD for Product Design" by <b>Ulugbek Kirghizov &amp; Choonjong Kwak*</b></li> </ul>	<p><b>Session</b></p> <p><b>4th Industrial Revolution</b> Chair: MinHwa Lee(KCERN, Korea)</p> <ul style="list-style-type: none"> <li>Paper 1: "A virtuous circle job model of 4th Industrial revolution" by <b>Aesun Kim &amp; Minhwa Lee*</b></li> <li>Paper 2: "Exploring innovation ecosystem from the perspective of sustainability: towards a conceptual framework" by <b>Zheng Liu &amp; Victoria Stephens</b></li> <li>Paper 3: "OPPORTUNITIES PRESENTED BY CRISIS : THE UPGRADING OF CHINA PHOTOVOLTAIC" by <b>JIN Jun</b></li> <li>Paper 4: "The 4th Industrial revolution and Smart revolution" by <b>Kangjin Ju &amp; Minhwa Lee*</b></li> <li>Paper 5: "Analysis of the Private Sector Development of Vietnam in Innovative Capability through Human Resource Development" by <b>NGUYEN MANH QUAN</b></li> </ul>
		<p><b>Session</b></p> <p><b>Innovation and Convergence &amp; Global Digital Innovation and Intellectual Property</b> Chairs: Jeonghwan Lee(Myongji University, Korea), Yang Cheng(Aalborg University, Denmark) &amp; Ben Zhang(Huazhong University of Science &amp; Technology, China)</p> <ul style="list-style-type: none"> <li>Paper 1: "Samsung Electronics' Transition in M&amp;A Strategy and its Implication through Harman International Cases" by <b>Jung Hyun Kim, Duong Thi Hong Nhung &amp; Jeonghwan Lee*</b></li> <li>Paper 2: "HOW DO MOBILITY DIRECTION AND HUMAN ASSETS OF MOBILE ENGINEERS AFFECT JOINT KNOWLEDGE CREATION AFTER M&amp;As?" by <b>Nangyoo K. Park, Monica Youngshin Chun &amp; Jeonghwan Lee*</b></li> <li>Paper 3: "Understanding the Post-entry of Chinese Firms' ODI: Perspective of Springboard" by</li> </ul>

6. 29(Sat.)	<b>Programs</b> *Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市天白区塩釜口一丁目 501 番地))	<p>• Paper 5: "Impact of Social Robots on Society and Economy in Japan" by <b>SHAPOSHNIKOV Sergei</b></p> <p>• Paper 4: "Study on the business model of post-natal nursing institutions in Taiwan and China" by <b>Min-Ren Yan &amp; Pei-ling Liu*</b></p> <p>• Paper 5: "The construction of the AI model of medical beauty tourism marketing - from the perspective of brand" by <b>Chih-Hsuan Lin, Wei-Chuan Wang, Yu-Ting Chen</b></p> <p>*Paper 6: "Research on the construction of public service platform for the transformation of scientific and technological achievements in universities" by <b>Dandan Yan, Lei Ma &amp; Zheng Liu</b></p>	<p>• Paper 6: Determinants of Innovation in the Internet of Things SMEs" by <b>Dong-Il Shin, DaeSoo Kim* &amp; Sun-Young Park</b></p> <p><b>Honor Discussor: JinHyO Joseph Yun</b></p>	<p>Xinyue Zhou, Yang Cheng, Lei Ma &amp; Olav Sørensen</p> <p>• Paper 4: "Effect of student activity participation on accounting learning" by <b>Yeon Hee Park, Tae-Young Paik &amp; Jeongho Koo*</b></p> <p>• Paper 5: "Risk Taking and Open Innovation: Exploring a Creative Business Model" by <b>Minseo(Emily) Jung</b></p> <p>• Paper 6: "New Business model for enterprise system development - Unicage methodology" by <b>Nobuaki Tonaka</b></p>
16:00 ~ 16:30	Coffee Break	★ Coffee and dessert will be provided in N513, North Lecture Hall.		
16:30 ~ 18:00	<b>Session</b> <b>Industrial Alliance and Open Innovation &amp; Does Smart cities become new growth engine of future living?</b> Chairs: Lih-ren Li(National Taichung University of Science and Technology), JungHee Han(Hongik University, Korea) & ChangHwan Shin(Kyungpook National University, Korea)	<b>Session</b> <b>Efficiency Issues from the Open Innovation Perspective &amp; Sustainable transition of industrial ecosystems: the experience from China</b> Chairs: DaeCheol Kim(Hanyang University, Korea) & Jimxi Wu(Tsinghua University, China)	<b>Session</b> <b>Innovation ecosystem and policy &amp; Technology Valuation</b> Chairs: Lei Ma(Nanjing Univ. of Science and Technology, China) & Zheng Liu(Nanjing Univ. of Science and Technology, China & Univ. of South Wales, U.K.) & Tae-Eung Sung(Yonsei University, Korea)	<b>Session</b> <b>Co-creation design</b> Chair: Sunah Kim(Kumoh National Institute of Technology, Korea)
		<p>• Paper 1: "Smart City Governance with Sustainable System Development Framework-An</p>	<p>• Paper 1: "The innovation ecosystem formation mechanism of intellectual property operation</p>	<p>• Paper 1: "Toward an inclusive approach to accommodate diverse users of medical devices" by Taesun Kim</p>



6. 29(Sat.)	<p><b>Programs</b></p> <ul style="list-style-type: none"> <li>• Paper 1: "Patents and market values: Case of South Korea" by <b>Junghee Han, Almas Heshmati</b></li> <li>• Paper 2: "Social-oriented cooperation program Development of economic and social effect measurement model" by <b>DaeGeon Kim, SeungHoo jin, GyeongMin Nam &amp; SangOk Choi</b></li> <li>• Paper 3: "Smart city as a driver of innovative economy on the example of Moscow" by <b>Maxim PONOMARENKO</b></li> <li>• Paper 4: "Multiplier technology factors and technological DNA" by <b>Sunghoon Chung &amp; Junghee Han</b></li> <li>• Paper 5: "Effects and Responses of Taiwan-Japan Industry Cooperation Policy in Tokai Region, Japan" by <b>Kuan-Ju Lin, Yahn-Shir Chen</b></li> <li>• Paper 6: "The New Future of Display: Road Vehicle" by <b>Hyun Jun, Park, Yong Rae, Cho* &amp; Myungsoon Kim</b></li> </ul>	<p><b>*Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市天白区塩釜口一丁目 501 番地))</b></p> <p>Empirical Study of Taipei City" by <b>Min-Ren Yan, Cheng-Sheng Pong, Ahmad Hadavi</b></p> <ul style="list-style-type: none"> <li>• Paper 2: "Efficiency Analysis of R&amp;D Investment for SMEs by Ministries of Public Agencies (in Korea)" by <b>Eun-song Bae, Sung-Hun Park, Joong-Hun Ko &amp; Dae Cheol Kim*</b></li> <li>• Paper 3: "Exploration on building a green governance system in a comprehensive way: Based on Japanese experience" by <b>Li wei an &amp; Qin Lan</b></li> <li>• Paper 4: "How Social Innovation Creates Shared Value for Sustainable Community Development: The Case of Kaohsiung Arena" by <b>Min-Ren Yan, Lin-Ya Hong, Hui-Lan Chi, Ray-Yin Kuo</b></li> <li>• Paper 5: "Study on the change of residential energy consumption pattern and the potential of carbon emission reduction under the sharing economy-taking bike sharing as an example" by <b>Hui Zhao &amp; Jinxi Wu</b></li> <li>• Paper 6: "Development of pavement deterioration model</li> </ul>	<ul style="list-style-type: none"> <li>• Paper 2: "Sharing What Is Learned from Outside Industrial Training with Organizational Peers" by <b>Yoshi Takahashi, Than Than Aung* &amp; Mon Mon Oo &amp; Nu Nu Mai</b></li> <li>• Paper 3: "The implementation of ECG Measurement System based on the Android Platform" by <b>Woongsik Kim</b></li> <li>• Paper 4: "The development of Intelligent logistics management system using Android Platform" by <b>Yongsuk Kim</b></li> <li>• Paper 5: "Research on Ecological Management of Public Opinion in China's Entertainment Network Community" by <b>Xiu-Fang Song &amp; Cai Jinyu</b></li> <li>• Paper 6: "Research on the Process of Resource Bricolage and Organizing Improvisation in IT Innovation: A Case Study of Baidu Zhongxing" by <b>Haibo Hu, Haitao Lu, Chunbing Mao, Meiju Fei &amp; Yang Cheng*</b></li> </ul> <p><b>Honor Discussor: Tan Yigitcanlar</b></p>	<ul style="list-style-type: none"> <li>• Paper 1: "Bridging the Gap in the Commercialization Process of Digital Innovative Technology: Focusing on 3 stage Technology-Product- Market Model" by <b>Minseo Kim, Sun-Young Park* &amp; Hyesu Park*</b></li> <li>• Paper 3: "Patent Risk Evaluation in International Trade Based on the Analytic Hierarchy Process and Entropy Method" by <b>Ben Zhang*, Lei Ma, Zheng Liu, Fuxin Wang</b></li> <li>• Paper 4: "Study on the Prediction of Economic Lifetime for Converging multi-component technology and its Application to Practical Cases for Technology Valuation" by <b>Tae-Eung Sung, Eungdo Kim, Kwangsoo Shin, Jongtaik Lee*</b></li> <li>• Paper 5: "A study on Technology Development Performance and Technology Commercialization according to Technology Development Capacity of SMEs Focusing on comparative Analysis Technology Business Groups" by</li> </ul>
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6. 29(Sat.)	*Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市天白区塩釜口一丁目 501 番地))		
	<p><b>Programs</b></p>	<p><b>Urban Management</b> Chair: MyungSik Do(Hanbat National University, Korea)</p> <ul style="list-style-type: none"> <li>Paper 1: "Eco-innovation in textile industrial cluster from network perspective" by <b>Wei Cong, Lin Hou &amp; Lei Shi*</b></li> <li>Paper 2: "Environmental potentials of best available techniques -the case of some key industrial sectors in China" by <b>Rubing Ge, Wei Cong, Lin Hou &amp; Lei Shi*</b></li> </ul> <p><small>* Paper 3: "Artificial Intelligence Road Survey System for detecting Road Defects" by Seungki Ryu &amp; Chanjun Chun</small></p> <ul style="list-style-type: none"> <li>Paper 4: "Using DEA and DuPont analysis to explore the innovation</li> </ul>	<p><b>Hyun-ji Kim, Sun-Young Park* &amp; Won-IL Joh</b></p> <ul style="list-style-type: none"> <li>Paper 6: "How pipeline management affects on innovation performance in pharmaceutical industry" by <b>Nahmryune Cho, EungdoKim* &amp; KwangsooShin</b></li> </ul>
18:00 ~ 18:10	Break Time		
18:10 ~ 19:40	<p><b>Session</b></p> <p><b>Environmental innovation and executive communication</b> Chairs: Chih cheng Lo(National Changhua University of Education) &amp; Chunhsien Wang(National Chiayi University)</p> <ul style="list-style-type: none"> <li>Paper 1: "Managerial compensation and environmental innovation" by <b>Chang, Ching-Hsing</b></li> <li>Paper 2: "Open Collaborative Innovation in Informal Economy: The Emergence of Shenzhen Mobile Phone Industry" by <b>Yu-Chun Chen &amp; Chen, Min-Nan</b></li> <li>Paper 3: "Evaluation for Alternatives of Land Use Plan in the Process of Climate Change</li> </ul>	<p><b>Session</b></p> <p><b>Innovation and Entrepreneurship in Management of Technology</b> Chairs: SunYoung Park(KonKuk University, Korea) &amp; Dong-Hoon Oh (The University of Seoul, Korea)</p> <ul style="list-style-type: none"> <li>Paper 1: "An empirical study on the obstacle factors affecting R&amp;D outsourcing on a basis of Innovation Resistance Model: Focus on the Automotive R&amp;D in Korea" by <b>Jinhyung Kim, Dong-Hoon Oh*, Sun-Young Park &amp; Hyun-ji Kim</b></li> <li>Paper 2: "Collaborative Green Business Ecosystem and Strategic Development with Open Innovation Platform" by <b>Min-Ren Yan and Jen-Ming Weng</b></li> </ul>	<p><b>Session</b></p> <p><b>Training of Trainers for Industrial Human Resource Development &amp; Open innovation analysis</b> Chairs: Yoshi Takahashi(Hiroshima University, Japan) &amp; Eui-Seob Jeong(Korea Institute of Science and Technology Information, Korea)</p> <ul style="list-style-type: none"> <li>Paper 1: "Open Innovation guarantee practices for banking industry in Myanmar" by <b>Yuri Sadoi, Takeshi Arai &amp; Ye Tun Min</b></li> <li>Paper 2: "Do government R&amp;D grants promote innovation efficiency in Korean Pharmaceutical Industry?" by <b>Kisoon Shin, Eungdo Kim* &amp; Kwangsoo Shin*</b></li> </ul>



6. 29(Sat.)	<p><b>Programs</b></p> <p><b>*Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan)(〒468-8502 名古屋市天白区塩釜口一丁目 501 番地)</b></p>	<p><b>Adaptation” by Sangdon Lee and Jiyoung Choi</b></p> <ul style="list-style-type: none"> <li>Paper 4: “The impact of Augmented Reality in the Perception of Environmental Issues” by <b>Seo-young Lee</b></li> <li>Paper 5: “Chlorophyll estimation using low-resolution camera mounted on unmanned aerial vehicle in the buckwheat field to reduce nitrogen fertilizer waste” by <b>Dong-Wook Kim, Tae-Sun Min, Hak-Jin Kim &amp; Yong Suk Chung</b></li> </ul>	<p>ability and business performance of global companies in the aerospace and defense industry” by <b>Wen-Min Lu, Yao-Chieh Chen, Qian Long Kweh &amp; Yueh-Cheng Wu</b></p> <ul style="list-style-type: none"> <li>Paper 5: “Analysis of Factors Influencing the Matching of Ride-Hailing Service using Machine Learning Method” by <b>Myungsik Do*, Wanhee Byun, Dohkyoum Shin &amp; Hyeryun Jin</b></li> <li>Paper 6: “SDGs Booming in Japanese Big Businesses: Implications to IoT, Financial and Social Innovations” by <b>Mari Iizuka</b></li> </ul>	<ul style="list-style-type: none"> <li>Paper 3: “Research on Evolution and Consisting of Platform Business Model based on Structured User Resource” by <b>Li Kun</b></li> <li>Paper 4: “Research on the AI Model of Bank Credit Issuing and Lending - a Study on the Hotel Industry” by <b>Wei-Chuan Wang, Chi-Hsuan Lin, Yu-Fan Chang</b></li> <li>Paper 5: “Evaluation of Technological Innovations and the Industrial Ecosystem of Science Parks in Shanghai-An Empirical Study” by <b>Min-Ren Yan, Yan Haiyan, Zhan Lingyun, Xu Meng</b></li> <li>Paper 6: “Construction of AI model of trust fund raising—to hotel industry as the raising of mark” by <b>Wei-Chuan Wang, Chi-Hsuan Lin &amp; Chi Chen Tsai*</b></li> </ul>	<ul style="list-style-type: none"> <li>Paper 3: “Human Resource Development for Creative Industry- Implication from “Cool Japan” and “Visit Japan” program” by <b>Motohiro Kurokawa</b></li> <li>Paper 4: “The Influence of Open Innovation Strategy on cooperate Innovation Performance: Focus on Open innovation Type and stage” by <b>Seungmin Kim &amp; EungdoKim*</b></li> <li>Paper 5: “The impact of open innovation on patent registration fees” by <b>EuiSeob Jeong &amp; SangWoo Kim</b></li> </ul>
19:40 ~	<p><b>Gala Dinner at “Sir Winston Hotel 1F Villa Scara”</b></p> <p><b>* Presiders: Yuri Sadoi(Meijo University, Japan), EungDo Kim(Chungbuk National University, Korea)</b></p> <p>• Address: 100-36 Yagotohonmachi, Showa-ku, Nagoya City, Aichi 466-0825, Japan(サ一 ウィンストンホテル 名古屋 by ストリングス 〒466-0825, 愛知県名古屋市昭和区八事本町 100-36), +81-52-861-7874</p> <p>*Transportation from Meijo University to Sir Winston Hotel: <b>Take the Subway - Tsurumai Line from T16 Shio-gamaguchi to T15 Yagoto, come out from Exit 1, there is connection way to the Hotel.</b></p>				

6. 29(Sat.)	<p><b>Programs</b> *Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市天白区塩釜口一丁目 501 番地))</p> <p>※ World Best Restaurant should be experienced in Nagoya; inviting of on-site registration (\$50); SOltmC paid some addition and support the gala dinner at this special price</p> <p>*Contact: Organizing president: Prof. Dr. Jin-Hyo Joseph Yun; +82-10-6697-8355, <a href="mailto:jhyun@dgist.ac.kr">jhyun@dgist.ac.kr</a> Or hosting chair: Prof. Yuri Sadoi; +81-90-9940-5392, <a href="mailto:sadoi@meijo-u.ac.jp">sadoi@meijo-u.ac.jp</a> Or managing director of SOltmC: Dr. Xiaofei Zhao; +82-10-4072-8595, <a href="mailto:qiaoke@dgist.ac.kr">qiaoke@dgist.ac.kr</a></p> 
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6. 30(Sun.)		*Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市中区塩釜一丁目 501 番地))			Registration Desk 5 <sup>th</sup> Floor
Time	Programs	N301	N501	N503	N504
08:00~09:00	<b>Registration</b>				
09:00~10:30	<p><b>Session</b> <b>Resilience Towards Sustainability &amp; Second IT Revolution and University Innovation</b></p> <p>Chairs: Sang-Don Lee(Ewha Womans University, Korea) &amp; DooSeok Lee (DGIST, Korea)</p> <ul style="list-style-type: none"> <li>Paper 1: "Implication of GPS monitoring to identify the habitat suitability model for Korean waterdeer" by <b>Sangdon Lee</b></li> <li>Paper 2: "Expressing the Personalities of the Conversational Agents with Visual and Verbal Feedback" by <b>Seo-young Lee, Gyuho Lee, Soomin Kim &amp; Joonhwan Lee</b></li> <li>Paper 3: "The Study on relationship between digital marketing and Industrial brand reputation" by <b>Lo, Chih-Cheng; Ying-Chen Chen &amp; Chang, Josephine</b></li> </ul>	<p><b>Session</b> <b>Collaboration, Trust, Public Motivation, Trend setting and Attitude toward Innovation and New Technology</b></p> <p>Chair: KwangHo Jung(Seoul National University, Korea)</p> <ul style="list-style-type: none"> <li>Paper 1: "Open Innovation, Collaboration, and Trust among and within Public Research Institutions of South Korea" by <b>Jineui Hahm, Kwangho Jung</b></li> <li>Paper 2: "Factors affecting Outbound Open Innovation Performance in Bio-Pharmaceutical Industry - Focus on out-Licensing Deals" by <b>Ingyu Lee, Eungdo Kim* &amp; Kwangsoo Shin*</b></li> <li>Paper 3: "Does administrative burden increase client payment error and fraud? The case of the US Supplemental Nutrition</li> </ul>	<p><b>Session</b> <b>Opportunities and Challenges of Public Sector in the Intelligent Society</b></p> <p>Chair: Dongwook Kim(Seoul National University, Korea)</p> <ul style="list-style-type: none"> <li>Paper 1: "A Comparative Study of Digital Government Policies between Korea and USA- Focusing on comparison of E-Government Act -" by <b>Choong-Sik Chung</b></li> <li>Paper 2: "Is social innovation a better way to do CSR?" by <b>Ching-Hui TANG &amp; Ying-Che HSIEH</b></li> <li>Paper 3: "Graduates' career choice towards social enterprises and NPOs" by <b>Jingjing WENG* &amp; Frances Wu</b></li> <li>Paper 4: "How social enterprise deliver social innovation through co-creation process" by <b>Li-Hsiang Yi, Yu-Hsuan KAO &amp; Ying-Che HSIEH*</b></li> </ul>	<p><b>Session</b> <b>Initiatives for Multiculturalism and Ethnic Diversity: Grassroots Innovation and International Collaboration</b></p> <p>Chair: Makiko Takeda(Aichi Gakuin University, Japan)</p> <ul style="list-style-type: none"> <li>Paper 1: "Open Innovation Networks for Incubating Grassroots Innovation" by <b>Anamika R Dey &amp; Anil Gupta</b></li> <li>Paper 2: "Facilitating Democratic Consolidation and Public Participation in State-Building: Academic Diplomacy Perspective" by <b>Chosein Yamahata</b></li> <li>Paper 3: "Sustainability Effort Coordination under Additive Demand" by <b>Sungyong Choi &amp; Brian Maeng</b></li> <li>Paper 4: "Country-Specific Ownership Structures and Types of Innovation Strategies for the</li> </ul>	


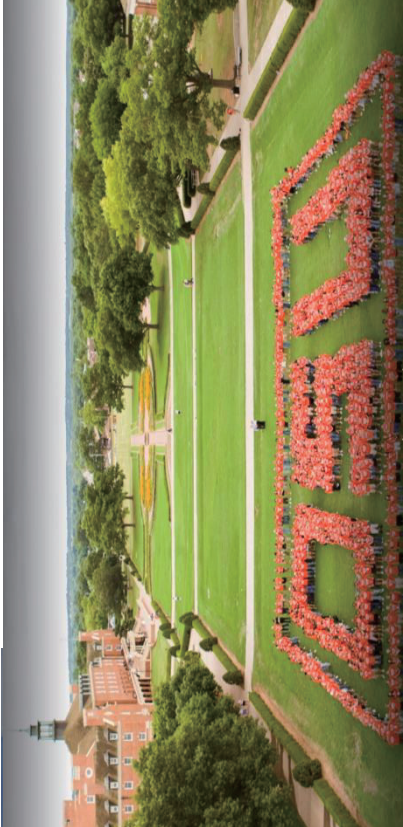
6. 30(Sun.)	*Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市天白区堀釜口一丁目 501 番地))	<p><b>Programs</b></p> <ul style="list-style-type: none"> <li>Paper 4: "Deep machine learning for Human deep learning" by <b>DooSeok Lee</b></li> <li>Paper 5: "A Study on the Effects of Entrepreneurship Education on occupational choice: Mediating effect of Bricolage" by <b>Yu Shin Kim &amp; Chang Soo Sung</b></li> <li>Paper 6: "A Study on the Influence of Pre-Entrepreneur Education on the Entrepreneurial Intention - Focusing on mediating effects of Alertness" by <b>Hyun Kyu Lee, Kim, Yu Shin &amp; Chang Soo Sung</b></li> </ul> <p><b>Honor Discussor: Fumio Kodama</b></p>	<p>Assistance Program" by <b>Sabinne Lee, Kwangho Jung</b></p> <ul style="list-style-type: none"> <li>Paper 4: "Profit-driven Globalization in Colonial Asia: The Case of Rangoon, Burma" by <b>Donald M. Seekins</b></li> <li>Paper 5: "Public Service Motivation and Attitudes toward Sustainability" by <b>Kwangho Jung, Seung-Hee Lee, Jane E. Workman, Xiufeng Li</b></li> <li>Paper 6: "Developing improvement model on technology valuation in bio-pharmaceutical industry- analyze royalty rate, attrition rate and duration based on drug class, drug type, drug development phase" by <b>Jonghak Woo, Eungdo Kim*, Kwangsoo Shin*, Tae-Eung Sung, Jongtaik, Lee &amp; Jeonghee, Lee</b></li> </ul> <p><b>Honor Discussor: Rajah Rasiah</b></p>	<p>Paper 5: "Digital Technology, Innovation, and Policy" by <b>Wookjoon Sung &amp; Dongwook Kim</b></p> <ul style="list-style-type: none"> <li>Paper 6: "Prospects for Democracy in Burma: Understanding the Persistence and Entrenchment of Military Rule" by <b>Yatana Yamahata</b></li> </ul> <p><b>Honor Discussor: Philip Cooke</b></p>	<p>Performance of Korean Manufacturing Firms" by <b>Chooyeon Kim, Jihong Min &amp; Jaewook Yoo</b></p> <ul style="list-style-type: none"> <li>Paper 5: "Platform Growth Model: The Four Stages of Growth Model" by <b>Junic Kim</b></li> <li>Paper 6: "Parallel Cooperation and Connectivity: The GMS-LMC Model for Regional Cooperation" by <b>Nisit Panthamit, Chosein Yamahata &amp; Boripat Lebe</b></li> </ul>
10:30 ~ 11:00 11:00 ~ 12:30	★ <b>Coffee and dessert will be provided in N513, North Lecture Hall.</b>	<p>Coffee Break</p> <p><b>Keynote Speech 7</b> (11:00~11:30) <b>Philip Cooke</b> (Bergen University College, Norway) •Theme: World Turned Upside Down: Entrepreneurial Decline, Its Reluctant Myths and Troubling Realities</p>			
					*Presiders: <b>Wookjoon Sung</b> (Seoul National University of Science & Technology, Korea), <b>Junic Kim</b> (Konkuk University, Korea) *Venue: <b>Room. N301, North Lecture Hall;</b>

6. 30(Sun.)	<p><b>Programs</b> *Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市天白区堀釜口一丁目 501 番地))</p> <p><b>Keynote Speech 8</b> (11:30~12:00) <b>Venni V Krishna</b> (University of New South Wales, Australia) •Theme: Universities in the National Innovation Systems: Emerging Innovation Landscapes in Asia-Pacific</p> <p><b>Keynote Speech 9</b> (12:00~12:30) <b>Fumio Kodama</b>(Emeritus Professor of Tokyo University, Japan) •Theme: Incessant Conceptual/Industrial Transformation of the Automobiles</p>				
12:30~14:00	<p>Lunch Break * <b>Lunch will be provided at the Basement-B1 floor of the North Lecture Hall.</b></p> <p>* <b>Lunch meal ticket will be delivered at the registration desk at the 08:00~09:00 &amp; 10:30~11:00.</b></p>				
14:00~15:30	<p><b>Session</b></p> <p><b>Entrepreneurial Opportunities &amp; The Future of Democratic Consolidation and State-building: Challenges, Obstacles, and Prospects</b> Chairs: Chang-Soo Sung(Dongguk University, Korea) &amp; Joo Yeon Park(Yongsei University, Korea) &amp; Chosein Yamahata(Aichi Gakuin University, Japan)</p> <ul style="list-style-type: none"> <li>• Paper 1: "The Effects of Technology Entrepreneurship on Employment Change" by <b>Daesoo Choi, Chung-Gyu Byun, Kyung Hee Jung &amp; Chang Soo Sung*</b></li> <li>• Paper 2: "Innovation in In-group Socializing and Social Cohesion: Peacebuilding in Myanmar" by <b>Myat Thet Thitsar</b></li> <li>• Paper 3: "The Effect of Equity-based Crowdfunding Investment</li> </ul> <p><b>Session</b></p> <p><b>Dynamic of Open innovation in Biomedical Industry</b> Chairs: Eungdo Kim(Chungbuk National University, Korea) &amp; Kwangsoo Shin(Chungbuk National University, Korea)</p> <ul style="list-style-type: none"> <li>• Paper 1: "Factors affecting merger and acquisition performance in pharmaceutical industry" by <b>Jimin Choi, EungdoKim* &amp; KwangsooShin</b></li> <li>• Paper 2: "Promoting Human Rights of Ethnic Children and Women through Poverty Reduction: A Case of Quang Nam Province" by <b>Vo Thi Anh Dinh</b></li> <li>• Paper 3: "Fashion Trendsetting, Creativity, and Technological Innovation: Gender Matters" by <b>Seung-Hee Lee, Jane Workman &amp; Kwangho Jung</b></li> </ul> <p><b>Session</b></p> <p><b>Social Innovation and Social Enterprise</b> Chair: Ying-Che Hsieh(National Tsing Hua University)</p> <ul style="list-style-type: none"> <li>• Paper 1: "The study of social entrepreneurial teams" by <b>Li-Chun KUNG, Ying-Che Hsieh*</b></li> <li>• Paper 2: "The Managerial Dimension of Open Data Success: Focusing on the Open Data Initiatives in Korean Local Governments" by <b>Seok-Jin Eom &amp; Jun Hwang Kim</b></li> <li>• Paper 3: "How do social entrepreneurs develop their economic values?" by <b>Tzu-Ning KUO &amp; Ying-Che Hsieh</b></li> <li>• Paper 4: "Analytical method of the impact of delay of internal process flow on corporate profit and cash flow" by <b>Kerji Kishida</b></li> </ul> <p><b>Session</b></p> <p><b>Innovation Management and Strategy</b> Chair: Junic Kim(KonKuk University, Korea)</p> <ul style="list-style-type: none"> <li>• Paper 1: "Promotion of Ethnic Pluralism through Multilingual Education in Myanmar: Changes from Classroom" by <b>Makiko Takeda</b></li> <li>• Paper 2: "War And State-building process in Myanmar: why does it fail?" by <b>Dan Seng Lawn</b></li> <li>• Paper 3: "External Knowledge Search Strategies and Innovation Performance-A Mediated Moderation Analysis on the Relationship of External Knowledge Search Strategies, Organizational Ambidexterity, and Internal Assets" by <b>Choo</b></li> </ul>				

6. 30(Sun.)	<p><b>Programs</b></p> <p>on the Corporate Management Performance and Job Creation" by <b>Hanjun Cho, Chang Soo Sung &amp; Joo Y. Park</b></p> <ul style="list-style-type: none"> <li>• Paper 4: "Shaping Federalism through Identity: Resurgence of Identity Politics in Smaller Ethnic Minority Areas of Myanmar" by <b>Myat The Thitsar</b></li> <li>• Paper 5: "Topography of Post-Genomic Researches in Korea: Governance and Institutional Polymorphism" by <b>June-Seok Lee</b></li> <li>• Paper 6: "Effect analysis of short-term entrepreneurship education program: Focusing on moderate effects of Kolb's learning style" by <b>Chung-Gyu Byun &amp; Chang Soo Sung</b></li> </ul>	<p><b>*Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市天白区塩釜一丁目 501 番地))</b></p>
	<ul style="list-style-type: none"> <li>• Paper 4: "Factors affecting the performance of government supported R&amp;D project of Korean bio-pharmaceutical industry" by <b>Sunmi Jung, Changmin Kim, Kwangsoo Shin* &amp; Eungdo Kim*</b></li> <li>• Paper 5: "Aid Effectiveness of Subprograms in Official Development Assistance on Human Development" by <b>Eunmi Lee, Kwangho Jung, Jinbae Sul &amp; Eunhyung Park</b></li> <li>• Paper 6: "User innovation strategy and its performance: The case of Korea smart media industry" by <b>Chungho Na, Kwangsoo Shin &amp; Eungdo Kim*</b></li> </ul> <p><b>Honor Discussor: Venni V Krishna</b></p>	<p><b>Yeon Kim, Myung Sub Lim &amp; Jae Wook Yoo*</b></p> <ul style="list-style-type: none"> <li>• Paper 4: "Smart Future Cities: challenges and opportunities" by <b>Anjali K. Sharma</b></li> <li>• Paper 5: "Deep Learning Based Steering Angle Correction System Using Vanishing Point for Autonomous Vehicle" by <b>Inhwan Bae, Minho Oh, Bokyung Cha, Yongseob Lim*, Gyeongho Choi</b></li> </ul>
15:30~16:00	<p>Coffee Break</p> <p>★ <b>Coffee and dessert will be provided in N513, North Lecture Hall.</b></p>	
16:00~17:00	<p><b>Keynote Speech 10</b> (16:00~16:30) <b>Rejah Rasiah</b> (University of Malaya, Malaysia) •Theme: Building Networks to Harness Innovation Synergies: Towards an Open Systems Approach to Sustainable Development</p> <p><b>*Presiders: KyungBae Park(Sangji University, Korea), Zheng Liu(Nanjing Univ. of Science and Technology, China &amp; Univ. of South Wales, U.K.)</b></p> <p><b>Keynote Speech 11</b> (16:30~17:00) <b>Anil K. Gupta</b> (Indian Institute of Management, India) •Theme: Giving Voice, Visibility and Velocity to the Creative Ideas: A 30-Year Journey of Honey Bee Network</p>	<p><b>Honor Discussor: Anil K. Gupta</b></p> <p>•Venue: <b>Room. N301, North Lecture Hall;</b></p>

6. 30(Sun.)	<p><b>Programs</b></p> <p>*Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市天白区堀釜口一丁目 501 番地))</p>
17:00~17:30	Break Time
17:30~18:30	<p><b>The Expanded Editorial Board Meeting of JOlTmC</b></p> <p>*Presiders: KyungBae Park(Sangji University, Korea), Zheng Liu(Nanjing Univ. of Science and Technology, China &amp; Univ. of South Wales, U.K.)</p> <p>*Venue: Room. N301, North Lecture Hall;</p>
18:30~19:30	<p><b>General Meeting of SOlTmC</b></p> <p>*Venue: Room. N301, North Lecture Hall;</p> <p>*Presiders: KyungBae Park(Sangji University, Korea), Zheng Liu(Nanjing Univ. of Science and Technology, China &amp; Univ. of South Wales, U.K.)</p> <p>*Best Paper Award Ceremony</p> <p>*Appreciation Plaque Ceremony</p> <p>*Important Decision Issues</p>



6. 30(Sun.)	<p><b>Programs</b></p> <p><b>*Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市天白区堀釜口一丁目 501 番地))</b></p>	
	<p style="text-align: center;"><b>Notice of SOItmC &amp; Oklahoma State University 2020 Conference</b></p> <div style="display: flex; justify-content: space-around;">   </div> <ul style="list-style-type: none"> <li>• Hosted by Oklahoma State University 2020 Conference in USA(Hosting Chair: Prof. Young Bae Chang)</li> <li>• Organized by Society of Open Innovation: Technology, Market, and Complexity (SOItmC)             <ul style="list-style-type: none"> <li>• Theme: Open Innovation of Market, Engineering, Education, and Business</li> <li>• Date: July 10(Fri.) ~July 13(Mon.), 2020</li> <li>• Venue: Oklahoma State University, Stillwater, USA</li> </ul> </li> </ul>	
19:30 ~	<p style="text-align: center;"><b>Inviting Dinner</b></p> <p><b>*Presiders: Heather Yates(Oklahoma State University, USA), ChangHwan Shin(Kyungpook National University, Korea) &amp; KyungBae Park(Sangji University, Korea)</b></p> <ul style="list-style-type: none"> <li>• Venue: Kisoji(Nagoya-Yagoto) (Shuttle bus will wait from 19:20 at the Library front parking lot Meijo University)</li> <li>*Address: 3-1 Hayato, Hiroji-cho, Showa-ku, Nagoya, Japan(466-0834 愛知県名古屋市中昭和区広路町字隼人 3-1); +81-52-832-5022</li> </ul> <p style="text-align: center;">*We will contact the participants separately.</p> <p>* Inviting dinner is for thanks to the contribution of all special session chairs + contributors for organizing special sessions(in advance booked for 60 seats &amp; more possible).</p>	

7.01 (Mon.)		*Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市天白区塩釜口一丁目 501 番地))			
Time	Programs	N103	N104	N106	N107
08:00~10:30	Poster Presentation Prize Money would be awarded for every conference room's top 3 posters. 1 <sup>st</sup> : 30,000 Yen; 2 <sup>nd</sup> : 20,000Yen; 3 <sup>rd</sup> : 10,000 Yen. Evaluating Method: Every visitor would be given three heart memos before enter each room,	<p><b>Poster Session</b> Chairs: Inga Lapina(Riga Technical University) &amp; Juho Kiuru(University of Helsinki)</p> <ul style="list-style-type: none"> <li>Paper 1: "The current issues of AI and Foxconn · Sharp's IOT consumer electronics product strategy" by <b>Wu Chia Chen</b></li> <li>Paper 2: "Lean Smart Manufacturing in Taiwan - Focusing on the Bicycle Industry-" by <b>Lih-ren Li</b></li> <li>Paper 3: "Impact of Government R&amp;D Fund on Employment Performanceand the Mediating Effect of Technology Innovation: Focusing on Smalland Medium Companies of Korea" by <b>SeungHoo jin &amp; SangOk Choi</b></li> <li>Paper 4: "Inter-Organizational and geographical mobility of Chinese Inventors: Patterns and</li> </ul>	<p><b>Poster Session</b> Chairs: Karine Oganisjana(Riga Technical University, Latvia) &amp; XIAOFEI ZHAO(DGIIST, Korea)</p> <ul style="list-style-type: none"> <li>Paper 1: "What Dynamic Managerial Capabilities Are Needed for Greater Strategic Alliance Performance in IT Industry?" by <b>Čirjevskis, Andrejs &amp; Felker, Yves M.</b></li> <li>Paper 2: "Digital Maturity and Corporate Performance: Case of Baltic States" by <b>Eremina, Yulia, Lace, Natalja* &amp; Bistrova, Julija</b></li> <li>Paper 3: "The impact of service quality cognition gap on customer complaint behavior: Product involvement as the moderator" by <b>Ching-Chang Wu &amp; Yu Hsing Cheng*</b></li> <li>Paper 4: "A study for skin analysis via cloud service to construct innovation models and</li> </ul>	<p><b>Poster Session</b> Chairs: Heather Yates(Oklahoma State University, USA) &amp; KyungBae Park(Sangji University, Korea)</p> <ul style="list-style-type: none"> <li>Paper 1: "Open Innovation culture and Its' Cycle" by <b>Xiaofei Zhao, JinHyoo Joseph Yun*</b></li> <li>Paper 2: "Basic Income with high open innovation dynamics- The way to entrepreneurial state" by <b>JinHyoo Joseph Yun, KyungBae Park &amp; SungDeuk Hahm</b></li> <li>Paper 3: "Historical dynamics of Alibaba Open Innovation" by <b>JinHyoo Joseph Yun, Xiaofei Zhao, KyungBae Park &amp; Lei Shi</b></li> <li>Paper 4: "Serial Entrepreneurs form Medison Open Innovation" by <b>Jinhyoo Joseph Yun *</b>, <b>MinHwa Lee*, KyungBae Park, Xiaofei Zhao</b></li> </ul>	<p><b>Poster Session</b> Chairs: SHAPOSHNIKOV Sergei(Lomonosov Moscow State University, Russia) &amp; ChangHwan Shin(Kyungpook National University, Korea)</p> <ul style="list-style-type: none"> <li>Paper 1: "Effectiveness of Faculty Development Program for a MBA Course in Myanmar" by <b>Aung Kyaw* &amp; KhinSandar Thein</b></li> <li>Paper 2: "Developing Structured On-the-Job Training for Local Trainers for Industrial Human Resource Development in Myanmar" by <b>Than Aung*, Mon Mon Oo, Yuri Sadoi &amp; Yoshi Takahashi</b></li> <li>Paper 3: "Knowledge Diffusion Path Generated by Technological Collaborators: The Exploratory Case of the Advanced Coal</li> </ul>

7.01(Mon.)	Programs	*Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市天白区堀釜口一丁目 501 番地))
<p>then after visiting the presentation, you can choose the best three posters in every room and paste your heart memos on those posters.</p> <p>Poser session chairs would account the final results.</p>	<p>impacts" by <b>Deyun Yin* &amp; Zhao An</b></p> <ul style="list-style-type: none"> <li>Paper 5: "The roles of business ties and political ties in open innovation: evidence from Emerging China" by <b>Wang, Chunhsien</b></li> <li>Paper 6: "The Importance of Carbon Sequestration for Greenbelt Region in the Seoul Metropolitan Region" by <b>Jiyoung Choi &amp; Sangdon Lee</b></li> <li>Paper 7: "Does the Patent become a proxy of the firm's market value? Case of South Korea" by <b>JangHyeon Baek, Junghee Han</b></li> <li>Paper 8: "Study on preventive measures against exposure to risk factors, causing industrial disasters" by <b>Junghee Han</b></li> <li>Paper 9: "The Classification Analysis of Social Entrepreneur and Its Related Factors: Using Latent Class Analysis Method" by</li> </ul> <p>aboard using system dynamics" by <b>Min-Ren Yan, Hsien-Jung Lee*</b></p> <ul style="list-style-type: none"> <li>Paper 5: "Characteristic Analysis of Pine Wilt Disease using Time Series Hyperspectral Aerial Imagery" by <b>Myungsik Do*, Seunghyun Choi, Junghwan Chae, Sung-hun Kim &amp; Eon-taek Lim</b></li> <li>Paper 6: "A Study on the Inequity Between the Housing Location and the Commuting Accessibility in the Socially Vulnerable Classes" by <b>Seongman Jang &amp; Changhyo Yi*</b></li> <li>Paper 7: "A Data Mining Method of OLED Patent Technology in Chemical-Field Based on Content Analysis" by <b>Jiang Wang &amp; Lijuan Wang</b></li> <li>Paper 8: "The mechanism, progress and enlightenment of National Network for Manufacturing Innovation: What can we learn from</li> </ul>	<p>Technology Consortium" by <b>Ben Zhang &amp; Lei Ma</b></p> <ul style="list-style-type: none"> <li>Paper 4: "Research on Regional Collaborative Innovation Platform Based on platform theory——With Nanning high tech Industrial Development Zone" by <b>Xiaojing Huang, Xinyue Zhou, Yang Cheng &amp; Lei Ma</b></li> <li>Paper 5: "Virtual Reality vision training for Binocular dysfunctions" by <b>Jung-Un Jang</b></li> <li>Paper 6: "Early Anti-Aging Convergence Research for Development of Beauty Education Program in Korea" by <b>Kyu-Ok Shin, Na-Gyeong Yeom &amp; Hang-sik Park*</b></li> <li>Paper 7: "Public Service Design Strategy Based on a Collaborative Creation Platform-Focusing on the Citizen-sympathetic Bus Stop Development Project of the Jeju Special Self-Governing Province" by <b>Youngok Jeon &amp; Sinae Jung</b></li> <li>Paper 8: "The effect of personal value on CSV(creating shared</li> </ul>

7.01 (Mon.)	<p><b>Programs</b></p> <p><b>ChangHwan Shin &amp; Jungkyu, Park</b></p> <ul style="list-style-type: none"> <li>Paper 10: "The Effect of Design Competence on Science Education" by <b>Jong Rae Park</b></li> <li>Paper 11: "The impact of cluster's open innovation types on RIS productivity: Case study of US pharmaceutical companies" by <b>Hongbum Kim, Eungdo Kim</b></li> <li>Paper 12: "The efficient collaboration strategy of US Pharmaceutical Companies in regional innovation system" by <b>Eungdo Kim*</b></li> <li>Paper 13: "The impact of social capital on US pharmaceutical innovation cluster performance" by <b>Hongbum Kim &amp; Eungdo Kim*</b></li> <li>Paper 14: "A study on the utilization strategies for women science and technology human resources in a regional</li> </ul>	<p><b>*Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市天白区塩釜口一丁目 501 番地))</b></p> <p><b>Manufacturing USA?" by Yunhao Feng &amp; Jinxi Wu*</b></p> <ul style="list-style-type: none"> <li>Paper 9: "A Study on the Improvement of Operational Efficiency of Public R&amp;D Management Agencies in South Korea" by <b>Byung Yong Hwang, Eun Song Bae, Heung Deug Hong &amp; Dae Cheol Kim</b></li> <li>Paper 10: "Identifying Key Success Factors for Scale-up of Regional SMEs: A Case of Ecopro" by <b>Kim, Choonghyun*, Jaehoon Rhee &amp; Junghyun Yoon*</b></li> <li>Paper 11: "Collaborative Management and Competing Perspectives of Various Stakeholders for DMZ Policy Process" by <b>Yeo Bin Yoon, Kwangho Jung</b></li> <li>Paper 12: "Open Innovation, and Creativity: Bureaucratic Pathologies" by <b>Eunhyeong</b></li> </ul>	<p><b>Yeong-wha Sawng* &amp; Sun-Young Park</b></p> <ul style="list-style-type: none"> <li>Paper 10: "A Study on the Customer Churning Behavior according to the Market Maturity of Innovative Convergence Service: Focusing on the IPTV service" by <b>Myung-Joong Kim, Sun-Young Park*, Hyun-ji Kim &amp; Young-Gook Kim</b></li> <li>Paper 11: "A Study on the Impact of the Innovation Capabilities of Service Firms on the Performance in the Global Market: Focusing on the Interaction Effect of Service R&amp;D" by <b>Sun-Young Park, Kihin Wo*, Minseo Kim &amp; Jun-Young An</b></li> <li>Paper 12: "Estimating Technology Lifetime based on Generalized Probabilistic Model" by <b>Byunghoon Kim* &amp; Sun-Hi Yoo</b></li> <li>Paper 13: "Analysis of Factors affecting Licensing Deal-making</li> </ul>	<p><b>value" by Jeongho Koo, Suhyun Baek &amp; Sunah Kim*</b></p> <ul style="list-style-type: none"> <li>Paper 9: "Effects of firm-level diversification of market, product, and technology on performance: Focused on diversity property" by <b>Eungdo Kim*</b></li> <li>Paper 10: "Technology Configuration and Design Scheme For Block-chain Based Multiple Security Authentication in IoT(Internet of Medical Things) System" by <b>Bong-Gyeol CHOI, Eui-Seob JEONG, Sang-Woo KIM, Jong-Kyu PARK &amp; Jong-Man PARK</b></li> <li>Paper 11: "How Do Relational and Organizational Characteristics Affect Joint Knowledge Creation in the Period of the Post-Merger Integration?" by <b>Jeonghwan Lee, In-Jong Lim &amp; Jinju Lee</b></li> </ul>	
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7.01(Mon.)	*Venue: North Lecture Hall of Meijo University (1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市天白区塩釜一丁目 501 番地))	<p>government" by <b>Saimi Woo &amp; Junwon Chae</b></p> <ul style="list-style-type: none"> <li>Paper 15: "Creation of Smart Little People Models and Their Applications for Creative Problem Solving" by <b>YoungTae Kim, Young Bae Chang*, HaeJo Park &amp; DeokSu Kim</b></li> <li>Paper 16: "Customer orientations of service robots in restaurants" by <b>Valentina Della Corte, Giovanna Del Gaudio &amp; Krishnan Umachandran</b></li> <li>Paper 17: "Does government support promote open innovation in SMEs?" by <b>He Soung Ahn</b></li> <li>Paper 18: A study on effect of the obstacles to innovation to the outcome of technology innovation" by <b>Mun Junho &amp; Ryu Dongwoo</b></li> </ul>	<p><b>Park, Kwangho Jung, Hyue-Su Ha</b></p> <ul style="list-style-type: none"> <li>Paper 13: "The effect of firm's capability and knowledge characteristics on the technological innovation performance of acquiring firms in M&amp;A: The case of biopharmaceutical industry" by <b>YejinLee, EungdoKim &amp; Kwangsoo Shin*</b></li> <li>Paper 14: "Evolution of open innovation by value-based network perspective: The case of Korean smart home industry" by <b>EungdoKim &amp; Kwangsoo Shin*</b></li> <li>Paper 15: "Developing evaluation framework for selecting optimal medical devices" by <b>Juhuck Park, EungdoKim* &amp; KwangsooShin*</b></li> <li>Paper 16: "The research of AI integrated AR training mode of the Semiconductor industry" by</li> </ul>	<p>strategies for Biotech Firms - Focused on the stage of new drug development" by <b>Insu Lee &amp; Eungdo Kim*</b></p> <ul style="list-style-type: none"> <li>Paper 14: "Research productivity in Korea: Gender matters?" by <b>Hyuk Han, Koomin Kim &amp; DongWook Kim</b></li> <li>Paper 15: "A study on technology commercialization policy: beyond Death Valley in R&amp;D" by <b>Wookjoon Sung &amp; Dongwook Kim</b></li> <li>Paper 16: "Does open trade increase China's carbon emissions?" by <b>Longzheng Du &amp; Xinyu Guo*</b></li> <li>Paper 17: "Bank governance , media coverage and green loans" by <b>Lidong Wu* &amp; Yana Zhou</b></li> <li>Paper 18: "Effect of Bisphenol A Exposed via Drinking Water for Two Generations on the Expression of Mouse Testicular</li> </ul>	<ul style="list-style-type: none"> <li>Paper 12: "The Impact of Multimarket Competition on Innovation Strategy: A Case Study of the Korean Game Companies in Japan and China by <b>Jinju Lee &amp; Dealyung Im</b></li> <li>Paper 13: "Intangible Resources and Internationalization for the Innovation Performance: An Empirical Evidence from Chinese Organizations" by <b>Yuhan Liu, Junic Kim, Jaewook Yoo</b></li> <li>Paper 14: "Supplier, Tailor and Facilitator: The Typology of Platform Business Model" by <b>Junic Kim</b></li> <li>Paper 15: "Regional innovation by practical method to the local situation" by <b>Daisei Okayama &amp; Norihiro Nishimura*</b></li> <li>Paper 16: "Indirect effects of regulation on audit firms in Taiwan" by <b>Yahn-Shir Chen, Kuan-Ju Lin</b></li> </ul>
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7.01(Mon.)	<p><b>Programs</b></p> <p><b>*Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市中区塩釜一丁目 501 番地))</b></p>		
	<ul style="list-style-type: none"> <li>• Paper 19: "A Critical Analysis of Innovation, Innovativeness and Strategic Typologies: A Literature Review" by Jhilmit Das &amp; Devjani Chatterjee</li> <li>• Paper 20: "How to govern inter-firm collaboration in open service innovation" by Kuo-Nan(Nick) Hsieh</li> </ul>	<p><b>Chi-Hsuan Lin, Wei-Chuan Wang &amp; Yung-Chang Pao*</b></p> <ul style="list-style-type: none"> <li>• Paper 17: "The Effect of Online Review of Restaurant Customers on Review Helpfulness and Visit Intention to Restaurants" by Meehyang Chang* &amp; Dae Cheol Kim*</li> <li>• Paper 18: "Does cost stickiness affect capital structure?" by Ana Belen Tulcanaza Prieto, Younghwan Lee &amp; Jeongho Koo</li> </ul>	<p>Steroidogenic Enzymes" by TaeSun Min &amp; Ki-Ho Lee*</p> <ul style="list-style-type: none"> <li>• Paper 19: "The Implementation of Ocular Health Service System Using Smart Phone" by Woongsik Kim</li> </ul> <ul style="list-style-type: none"> <li>• Paper 17: "Smart tourism destination. A bibliometrical analysis" by <b>Valentina Della Corte*</b>, <b>Tindara Abbate &amp; Giovanna Del Gaudio</b></li> <li>• Paper 18: "Structural Dynamics of Future Orientation in Asian Countries" by Horst Hanusch &amp; Yasushi Hara</li> <li>• Paper 19: "Job creation in an intra-metropolitan innovation cluster" by Juho Kiuru</li> </ul>
<p>*White Color papers → Registration required before presentations.</p>			
10:30 ~10:40	<p><b>Poster Presentation Award Ceremony</b></p> <p><b>*Venue: Room. N103, North Lecture Hall; Heungju Ahn(DGIST, Korea)</b></p>		
11:00 ~21:00	<p><b>*Presiders: DooSeok Lee (DGIST, Korea), Heungju Ahn(DGIST, Korea)</b></p> <p><b>Cultural Tour "Nijojo Castle &amp; Kinkakuji(Kyoto)"</b></p> <p><b>*Presiders: Sunah Kim(Kumoh National Institute of Technology, Korea), Xiaofei Zhao(DGIST, Korea) &amp; Sungyong Choi(Yonsei University, Korea)</b></p>		



7.01(Mon.)	<p><b>*Venue: North Lecture Hall of Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan(〒468-8502 名古屋市天白区堀釜口一丁目 501 番地))</b></p>	 <ol style="list-style-type: none"> <li>1. (Meijo University → Nijojo Castle &amp; Kinkakuji(Kyoto)) The bus departure             <ol style="list-style-type: none"> <li>• 10:40 at the Library front parking lot Meijo University (In Tempaku Campus)(1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan)</li> <li>2 14:00~ Participants may act for themselves,</li> <li>• The Baggage can be loaded in the bus and participants can go to another place (ex. Airport) whenever you would like to.</li> <li>3. (Nijojo Castle &amp; Kinkakuji(Kyoto) → Sir Winston Hotel)</li> <li>• 19:00~21:00 (the arrival at Sir Winston Hotel, arrival time would be more later due to the traffic.)</li> <li>4. Only for the First 50 applicants who had sent the applications can participate in the tour.                      Contact: <a href="mailto:openinnovationtmc@dgist.ac.kr">openinnovationtmc@dgist.ac.kr</a> or Skype id:qiaoke@dgist.ac.kr</li> </ol> </li> </ol> <p style="text-align: center;">※ Water and a sandwich for Lunch will be provided.</p> <p style="text-align: center;"><b>Open Innovation Academy of SOItmC 2019 Summer School</b></p>
July 02 (Tue.) ~July 07(Sun.)	<p style="text-align: center;"><b>*Contact: Principal Professor JinHyo Joseph Yun; +82-10-6697-8355, <a href="mailto:jhyun@dgist.ac.kr">jhyun@dgist.ac.kr</a>                      Or Assistant Professor Xiaofei Zhao; +82-10-4072-8595, <a href="mailto:qiaoke@dgist.ac.kr">qiaoke@dgist.ac.kr</a></b></p> <p><b>*Everyday will check the attendance, all days attendants will be awarded the "SOItmC Open Innovation Academy Alumni Certificate" on July 7<sup>th</sup>, 2019</b></p> <ul style="list-style-type: none"> <li>•Venue: Building Tower 75, Room T1002, Meijo University(In Tempaku Campus)                      Address: 1-501 Shiogamaguchi, Tempaku-ku, Nagoya 468-8502, Japan</li> </ul> <p style="text-align: right;">*For more schedule details, please check Page 51.</p>	







Society of  
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Technology, Market & Complexity

**DGIST**

# Keynote Speech

## ***June 28 (Friday)***

**(Venue: Room. N301, North Lecture Hall; Time: 16:00~17:30)**

**Andreas Pyka**(University of Hohenheim, Germany)

- Theme: Productivity Slowdown, Exhausted Opportunities and the Power of Human Ingenuity  
- Schumpeter meets Georgescu-Roegen

**Yuri Sadoi**(Meijo University, Japan)

- Theme: Historical Analysis of Open Innovation in the Japanese Automotive Industry

**Tommi Inkinen**(University of Turku, Finland)

- Theme: Port Digitalization with Open Data: Challenges, Opportunities, and Integrations

## ***June 29(Saturday)***

**(Venue: Room. N301, North Lecture Hall; Time: 11:20~12:50)**

**JinHyo Joseph Yun**(DGIST, Korea)

- Theme: Basic Income with high open innovation dynamics-The way to entrepreneurial state

**Levent Altinay**(Oxford University, UK)

- Theme: Changing Global Landscape: Global Challenges and Opportunities for Innovation

**Tan Yigitcanlar** (Queensland University of Technology, Australia)

- Theme: Disruptive Impacts of Automated Driving Systems on the Built Environment and Land Use: An Urban Planner's Perspective

## ***June 30(Sunday)***

**(Venue: Room. N301, North Lecture Hall; Time: 11:00~12:30)**

**Philip Cooke** (Bergen University College, Norway)



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- Theme: World Turned Upside Down: Entrepreneurial Decline, Its Reluctant Myths and Troubling Realities

**Venni V Krishna** (University of New South Wales, Australia)

- Theme: Universities in the National Innovation Systems: Emerging Innovation Landscapes in Asia-Pacific

**Fumio Kodama**(Emeritus Professor of Tokyo University, Japan)

- Theme: How are Demand and Feasibility of Connectivity articulated?

### ***June 30(Sunday)***

**(Venue: Room. N301, North Lecture Hall; Time: 16:00~17:00)**

**Rajah Rasiah** (University of Malaya, Malaysia)

- Theme: Building Networks to Harness Innovation Synergies: Towards an Open Systems Approach to Sustainable Development

**Anil K. Gupta** (Indian Institute of Management, India)

- Theme: Giving Voice, Visibility and Velocity to the Creative Ideas: A 30-Year Journey of Honey Bee Network

# Productivity Slowdown, Exhausted Opportunities and the Power of Human Ingenuity - Schumpeter meets Georgescu-Roegen

**Andreas Pyka**

*University of Hohenheim, Germany*

## **Abstract**

Western economies are confronted with diminishing rates of economic growth and an alleged productivity slowdown. This phenomenon is controversially debated. While some scholars see this as indicating the approaching end of growth due to fully exploited technological opportunities, this article contends that the possibilities for radical, paradigm changing innovations are far from being exploited. Building on Schumpeter and Georgescu-Roegen, it is argued that human ingenuity allows for expanding the opportunity space. In a selective retrospect, our narrative identifies and describes four historical incidents reflecting different perceptions of the power of the human mind. It synthesizes the mentioned economists' viewpoints with the effects of these incidents to reproduce the intellectual roots of the recently developed concept of Dedicated Innovation Systems (DIS). We conclude that traditional indicators are not suitable to capture transformation processes, which is why we propose to interpret growth indicators and the alleged productivity slowdown quite differently. We argue that human ingenuity and transformation processes dedicated to sustainability will open up new opportunity spaces, thereby combining an increase in economic welfare and social justice with a reduction of negative environmental impact.

**Keywords:** Economic Growth; Economic Development; Schumpeter, Georgescu-Roegen, Productivity Slowdown, Knowledge, Human Ingenuity, Transformation, Qualitative Change, Paradigm Shift

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# Historical Analysis of Open Innovation in the Japanese Automotive Industry

Yuri SADOI

*Prof. Dr. Faculty of Economics, Meijo University, Japanese*

## Abstract

### 1. Introduction

The purpose of the paper is to examine the stages of innovation in the Japanese automotive industry from historical perspectives and illustrate the open innovation business models in each stages. The automotive industry in Japan had been playing an important role for innovation in the Japanese industrial development history (Jeong and Ko 2016). Several Japanese innovators before and after the WWII started innovative roles for starting and developing the Japanese automotive industry and succeeded.

The research question of the paper is to examine: (1) What made the Japanese automotive makers to shift from the closed innovation style to open innovation? (2) When was the shift progressed? (3) What was the background for the shift? Are there any relations with the Japanese economic development and the role of Japan in the global economy?

The structure of the paper is, first examine literature reviews of the study. Then the following chapter examines the five periodical zones (1) pioneer stage, (2) recovery process form the World War II, (3) development process 1970-1985, (4) after Plaza accord appreciation of yen 1985-2000, and (5) 2000-present. Then the based on the five periods, the development of the Japanese automotive industry and the changes of technologies are analyzed form the viewpoints of innovation style.

The final part of the paper discusses on current three types of open innovation models in the Japanese automotive industry; (1) open innovation with suppliers' organization, (2) R&D open innovation for next generation passenger cars, and (3) social organization for open innovation as industry-academia- government case.

### 2. Theoretical Framework

The automobile industry, which evolved over 150 years of development and technological change, revolves around innovation, entrepreneurial activities and market power. Innovation is the critical dimension of economic change and innovation-originated market power could provide better results than the invisible hand & price competition (Schumpeter 1938). Technological innovation often creates temporary monopolies, allowing abnormal profits that would soon be competed away by rivals and imitators. These temporary monopolies were necessary to provide the necessary incentives for firms to develop new products and processes.

# Port Digitalization with Open Data: Challenges, Opportunities, and Integrations

Tommi Inkinen\*

*Brahea Centre, Centre for Maritime Studies, University of Turku, 20014-Finland*

## Abstract

Digitalization is frequently addressed in recent economic and social scientific literature. This paper applies a distinction to digital data (raw data) and digital technologies (including both software platforms and hardware solutions). The open data is defined as follows: it is publicly available and non-chargeable data (information content) that is machine readable. Open data enables software and application development for external partners and users. A common feature in open-data applications is location-based identification (e.g., real-time traffic monitoring). These include spatial map visualizations, and monitoring of traffic and modes of transport. This visualized information provides additional support for data-based decision-making and management as these study results indicate. This information is valuable particularly in the decisions concerning unconventional and sudden events. This research indicates that the most suitable data resources for opening include information related to port transport infrastructure. In terms of temporal monitoring, static road and rail data is currently the most potential alternative for open data in ports. The main reasons are that these data sources are already at least partly published. However, they are not always in open-data formats. Static data is also a grounded starting point because the technical requirements are much less demanding in comparison to real-time data-processing and management.

**Keywords:** port management, open data; digitalization; open innovation; transport infrastructure



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# Basic Income with high open innovation dynamics The way to entrepreneurial state

**JinHyo Joseph Yun**

*Department of Open Innovation, Open Innovation Academy of SOLTmC, convergence Research Center  
for Future Automotive Technology of DGIST, Daegu, 42988.*

## **Abstracts**

Right now, world economy is approaching to near zero in the growth rate. Government should move from market failure treatment through system failure treatment, and to entrepreneurial state to motivate Schumpeterian dynamics of open innovation.

we want to answer the following research question at this study.

“How can the government with useful policies conquer the growth limits of economy which were from inequality or the controlled economy by big businesses?”

We did literature reviews to set up concept building of causal loop model of basic income with open innovation dynamics. Second, we built up causal loop model which includes basic income, and all factors of open innovation dynamics, Third, we proved our causal loop model through meta-analysis of basic income global cases.

Reflective basic income with permission-less open innovation, capital fluidity, and sharing economy, and platform tax can motivate open innovation dynamics, and arrive at the way to entrepreneurial state to conquer the growth limits of capitalism according to our research.

## **Key words**

Basic Income, Open Innovation dynamics, permission-less open innovation, capital fluidity, sharing economy

# Changing Global Landscape: Global Challenges and Opportunities for Innovation

**Levent Altinay**

## **Abstracts**

Despite the role of social entrepreneurship to create social value and transformation, little is still known about how social value can be generated. Drawing upon the service dominant logic and entrepreneurship literature, this keynote presents the resource needs of a social enterprise and evaluate the means by which these resources are mobilised. The keynote will report on the findings from face-to-face interviews key informants in a developing country case study context. The key resources required for social value creation in tourism are natural; financial; political and institutional and human capital. These resources enable the generation of social value at three levels with interlocking value creation processes: at an individual stakeholder level; at the meso level and at the macro-level. Strategies associated with resource mobilisation are stakeholder involvement and collaboration; and relationship development and local community empowerment. A shared understanding of the role of economic activity and cultural values is critical.



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# Disruptive Impacts of Automated Driving Systems on the Built Environment and Land Use: An Urban Planner's Perspective

Tan Yigitcanlar

## Abstract

Cities have started to restructure themselves into 'smart cities' to address the challenges of the 21st Century—such as climate change, sustainable development, and digital disruption. One of the major obstacles to success for a smart city is to tackle the mobility and accessibility issues via 'smart mobility' solutions. At the verge of the age of smart urbanism, autonomous vehicle technology is seen as an opportunity to realize the smart mobility vision of cities. However, this innovative technological advancement is also speculated to bring a major disruption in urban transport, land use, employment, parking, car ownership, infrastructure design, capital investment decisions, sustainability, mobility, and traffic safety. Despite the potential threats, urban planners and managers are not yet prepared to develop autonomous vehicle strategies for cities to deal with these threats. This is mainly due to a lack of knowledge on the social implications of autonomous capabilities and how exactly they will disrupt our cities. This viewpoint provides a snapshot of the current status of vehicle automation, the direction in which the field is moving forward, the potential impacts of systematic adoption of autonomous vehicles, and how urban planners can mitigate the built environment and land use disruption of autonomous vehicles.

**Keywords:** autonomous vehicle; autonomous driving; disruptive technology; land use change; built environment; smart city; smart urbanism; smart mobility; urban innovation; urban planning



## World Turned Upside Down: Entrepreneurial Decline, Its Reluctant Myths and Troubling Realities

**Philip Cooke**

*Mohn Centre for Innovation and Regional Development, Western Norway University of Applied  
Sciences, Bergen, Norway*

### **Abstract**

The aim of this paper is to attempt to understand why the popular academic and policy field of promoting, studying and evangelising “entrepreneurship” should have been associated with great success but, in the past twenty years or more in many advanced economies, so much failure. From the US to lesser and developing countries, emerging economies and the European Union, entrepreneurship, especially in regard to start-ups and particularly high-tech start-ups have been in constant more or less recent decline. This is seldom registered in the mainstream literature where a positive and benign profile is generally presented. The paper examines this phenomenon, ties it partly with the “productivity paradox” and seeks tentative hypotheses in relation to the apparent illusions if not delusions regarding “entrepreneurship”.

**Keywords:** entrepreneurship; start-ups; business dynamics; decline; productivity paradox



# Universities in the National Innovation Systems: Emerging Innovation Landscapes in Asia-Pacific

**Dr. V V Krishna,**

*Professorial Fellow, School of Humanities and Languages,  
University of New South Wales, Australia*

## **Abstract:**

Historically, universities and institutions of higher learning have gone through three academic revolutions, namely, teaching, research and innovation.

Universities and HEIs in the last two decades have come to occupy an important part in the national innovation systems (NIS) which is a complex of 'all important economic, social, political, organizational, institutional and other factors that influence the development, diffusion and use of innovations' (Edquist 1997). From a broader perspective, universities, together with public R&D labs and science agencies, public policies (on industry, research, innovation and higher education etc) and business enterprises are now considered as important actors in the NIS of Asia Pacific economies. The rise of Asia in the global knowledge-based economy from mid 1990s is closely associated with the rise of knowledge institutions of higher learning and scientific research output.

Every Asia-Pacific country embraced and introduced policies relating to innovation in varying forms. Consultancy and collaborative links with industry being traditional forms of engagement, new policy and institutional measures in technology transfer and innovation to engage with society and business enterprises are gaining prominence. Policies for incubation, start-ups and spin-offs, technology transfer offices (TTOs) and science and technology parks have gained tremendous prominence in the leading Asia Pacific universities.

Different national innovation systems in the Asia Pacific region have given rise to varying roles of universities. Whilst universities in S E Asian countries and India continue to play a traditional role of teaching and generating human capital, there are countries such as Singapore, China, Taiwan and Japan, where in, universities are being transformed as entrepreneurial universities. Science and innovation policies in these countries have orchestrated the goal direction of universities as frontiers of innovation. Universities in Australia and New Zealand have so far been quite successful in marketing higher education to Asian neighboring countries. They have in recent years begun to embark on innovation and commercialization of research. The presentation focuses on South East Asia and draws some comparison with more dynamic university eco-systems in East Asia. In doing so, the presentation brings into focus the emerging innovation landscapes across the region.

# Incessant Conceptual/Industrial Transformation of the Automobiles

**Fumio Kodama**

*Emeritus Professor, University of Tokyo, Japan*

**Abstract:**

In order to comprehend the prospect of the future automobile industry, the author reviewed the development path of the automobile industry. It is found that the industry have experienced the incessant conceptual transformation; dominant design; emission control; fuel efficiency; product integrity; modularization; and, hybridization. We also find an industrial transformation: inter-firm competition; inter-industry competition; and inter-industry collaboration. We will conclude that in the coming age of the self-driving the global partnering including IT companies will be a path of the industrial development.



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# Building Networks to Harness Innovation Synergies: Towards an Open Systems Approach to Sustainable Development

**Rajah Rasiah**

*Distinguished Professor of Economics, University of Malaya*

**Abstract:**

Open innovation has become popular approach especially since 2003 as people began managing, evolving and harnessing purposively knowledge flows across organizational boundaries but through increasing connections with systemic knowledge nodes relevant to the innovation process. The creation and appropriation of such knowledge has evolved rapidly with digitalization and the proliferation of broadband networks. Individuals, firms and organizations now connect and coordinate to support innovations openly across innovation systems. This keynote seeks to unravel the institutional underpinnings to not only quicken knowledge flows and expand the networks to a wider range of socioeconomic agents, but also to participate in shaping the processes to serve the purpose of sustaining development through environmental greening and societal egalitarian balancing. In doing so, using empirical examples the lecture will focus on developments since Schumpeter's groundbreaking exposition on innovation to explain how individuals, firms, farms and organizations can all participate in innovation networks that connect the critical knowledge nodes.

**Keywords:** Open innovation, systems approach, environmental greening, egalitarian society, sustainable development

## **Giving voice, visibility and velocity to the creative ideas: a 30-year journey of Honey Bee Network**

**Anil k gupta**

### **Abstract**

Should we have instead of three lights at a traffic junction, a fourth blue light also to warn the commuters behind that there is a traffic jam ahead. Turn left or right or make a u turn if allowed so that you don't get stuck in the jam, making it worse for everybody. Adarsh barnwal, class 10, Bihar, was awarded at national level by NIF for this idea. We are a frequent victim of this problem but this idea never occurred to us.! Recently when I shared this idea during the M L Mehta memorial lecture at Jaipur, The chief Secretary, Rajasthan, Shri D B Gupta chairing the lecture promised to talk to the DGP of police soon to experiment with this idea. Idea of a youth might influence the policy of the state. Shereen, then studying in class five attended a children creativity workshop organized by SRISTI and GIAN in collaboration with UNICEF at the Festival of Innovation, hosted by the office of the President of India. During the field visit, she identified a problem which is quite widespread that most children did not wash their hands before eating food. She came out with an idea, print on the cover of every lunch box , 'wash your hands before eating', inside the cover, 'wash your hands after eating the food'. The Union Minister of Women and Child Development, Ms Maneka Gandhi liked the idea, wrote to her cabinet colleague responsible for the purpose to advise all manufacturers of lunch-boxes to implement this idea. A national policy was influenced by the idea of a child from very disadvantaged background. Shalini, then in eight class found that the walker used by her grandfather could not help climb the stairs. She suggested that front legs of the walker could be made adjustable. She did not make anything. Later, NIF team got a walker made in which front legs became shorter while climbing up and longer while descending the steps. Such a walker did not exist anywhere in the world. In this case, idea of a school student produced a globally valid universal design. If children can invent, and an empathetic support system for nurturing innovations developed by the Honey Bee Network can not only give shape to these ideas but also take these to market in some cases. The modified walker has been licensed on non-exclusive basis to several entrepreneurs and the entire license fee has been shared with Shalini.

The policies at state, federal and global levels could be influenced by Children. Is not that enough to convince us that Children should not be treated as a sink of sermons but rather seen as a Source of innovative ideas?





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# **SOItmC & Meijo University 2019 Conference**

**June 28(Fri.) - July 1(Mon.), 2019,  
Meijo University, Nagoya, Japan**

**June 28(Friday)**



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## ***June 28 (Friday)***

**Venue: Room. 301, North Lecture Hall, 18:00~19:30**

### **IoT Innovation cases in Japanese companies**

**Chair: Yuri Sadoi(Meijo University, Japan)**

- Paper 1: "Creating Flow for the Shorter Lead Time-SCCC to Support "Productivity Revolution" by **Makoto Kawada**
- Paper 2: "Social Innovation by Japanese university students and alumni networks" by **Katsunobu Motoda, Kentaro Ono, Koya Nabeno, Takuya Iwamoto, Rikuya Mizuno, Wu Jun, Satoshi Hosokawa & Yusuke Tanaka**
- Paper 3: "The roles of business network centralities on firm performance: An explorative study in Tokyo manufacturing" by **Zhao An & Antonio K.W. Lau**
- Paper 4: "Effect of partnership quality on SMEs success: Mediating role of coordination capability and organizational agility" by **Hsian Ming Liu & Cheng Lun Lee\***
- Paper 5: "The role of media pattern in the knowledge collaboration: focusing on the online space" by **Jiyeon Chang, Junseok Hwang & Namjun Cha\***
- Paper 6: "How to overcome Uncertainty?: Impact of public alliance on uncertainty in the pharmaceutical industry" by **EungdoKim\***

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## ***June 28 (Friday)***

**Venue: Room. 501, North Lecture Hall, 18:00~19:30**

### **Innovation Diversity for Emerging Economies**

**Chair: Natalja Lace(Riga Technical University, Latvia)**

- Paper 1: "Achieving Sustainability in the Construction Supervision Process" by **Svetlana Mjakuškina\*, Maija Kavosa & Inga Lapiņa**
- Paper 2: "The Role of Network in Improving Innovative Performance: Based on the Service Firms" by **Dae-su Kim, Sanghyun Sung & Junghyun Yoon\***
- Paper 3: "Identification of opportunities for innovations through collecting problems from citizens" by **Oganisjana, Karine\* & Kozlovskis, Konstantins**



- Paper 4: "A Repository Architecture for the Start-up Business Process" by **Hokyeom Kim, Junghyun Yoon & Sanghyun Sung\***
- Paper 5: "Why They Go There: Maslow's Hierarchy of Needs and Revisit Intention" by **Yingyueh Su & Yusheng Yu**
- Paper 6: "Exploring the Enablers of Strategic Orientation for Technology-driven Business Innovation Ecosystem" by **Ta-Kai Yang & Min-Ren Yan**

### ***June 28 (Friday)***

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**Venue: Room. 503, North Lecture Hall, 18:00~19:30**

#### **Dominant Design and Crowd Open Innovation in Sharing Economy**

**Chair: JinHyo Joseph Yun(DGIST, Korea)**

- Paper 1: "Dominant Design, and Evolution of Electronic Bicycle-Comparative analysis of 3 cases, Daegu South Korea, Naples, Italy, and Nagoya, Japan" by **JinHyo JosephYun\*, Xiaofei Zhao, KyungBae Park, Yuri Sadoi & Giovanna Del Gaudio**
- Paper 2: "Entrepreneurial universities: cases from Taiwan" by **Jonathan C. Ho**
- Paper 3: "Sustaining the family business through open innovation: Focusing on technological acquisitions" by **He Soung Ahn**
- Paper 4: "Green Governance Responsibility, Corporate governance and Investors' Reaction" by **Weian Li, Guangyao Cui, Minna Zheng\* & Yaowei Zhang**
- Paper 5: "Open Innovation Ecosystem of Restaurants- Comparative case study of successful restaurants of Italy, South Korea, and North Korea" by **JinHyoJoseph Yun\*, Xiaofei Zhao, KyungBae Park, Valentina Della Corte & Giovanna Del Gaudio**
- Paper 6: "Green governance: connotation and block chain based implementation" by **Runhui Lin\*, Yuan Gui, Lun Wang & Biting Li**



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***June 28 (Friday)***

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**Venue: Room. 504, North Lecture Hall, 18:00~19:30**

**How to respond to dynamic social change through education**

**Chair: Park Hang Sik(Eulji University, Korea)**

- Paper 1: "Development of education model for improving collaboration creativity-Based on the online learning system (Moodle)" by **Eun-Joo Kim & Hang-Sik Park\***
- Paper 2: "Dynamic eco-efficiency evaluation: An innovation perspective of sustainable development" by **Sheng-Wei Lin\*, Wen-Min Lu & Tzu-Yi Fang**
- Paper 3: "Graduate school education for regional innovation" by **Norihiro Nishimura**
- Paper 4: "Regional innovation by a public health nurse who started business in Japan" by **Kazumasa Igura**
- Paper 5: "An analysis of converged core capacity affecting team creativity of industrial workers" by **Eun-Joo Kim & Hang-Sik Park\***
- Paper 6: "Influential Factors Driving Entrepreneurs for Agricultural Cooperatives in Thailand" by **Tipasuk Jaratjassada & Bob McClelland**

## Creating Flow for the Shorter Lead Time: SCCC to Support “Productivity Revolution”

**Makoto Kawada,**

*Professor Emeritus, PhD. Meijo University, Japan*

### **Abstract (Expanded)**

Purpose/ Research Question:

The Japanese Government has announced “Productivity Revolution”. Then, we have to define “productivity” and “Revolution” in terms of management system design and knowledge sociology.

Following the context of the Sociology of Knowledge, social practices are not natural phenomena, but a culture tentatively organized by specific environmental conditions, we can assume two kinds of knowledge pattern regarding the manufacturing productivity. One is the “Resource Operation Productivity” that was organized by Ford Motors in the US in the early 20th century, the implication of which is “Men or machines should work more and produce more”, and this productivity notion was supported by F. Taylor’s “Scientific Management”. However, this productivity notion was challenged by the “Lead Time Productivity”, initiated by Toyota Japan in the 1970s, the implication of which was “Materials should flow as faster as possible”. Therefore, “Revolution” implies the paradigm shift of the knowledge from “make-to-stock” to “make-to-order”, or more simply, shifting the focus of management science from “volume” to “velocity”.

The superiority of Lead Time Productivity (Lean-TPS) became almost “de-facto standard”. However, in reality, Implementing TPS is considered to be difficult. The reason for the difficulty lies in the problem of knowledge pattern. For those who have once acquired the knowledge of “Resource Operation Productivity”, it becomes extremely difficult to switch their mindset to the “Lead Time Productivity”. On the other hand, there are facts that those who have not the old knowledge can successfully create flows by Lean-TPS, which in Brazil, Malaysian, Turkish and so forth. These facts led us to the following hypothesis.



## Social Innovation by Japanese university students and alumni networks

**Katsunobu Motoda**, *Isekyu CORPORATION, Japan*

**Kentaro Ono**, *Miyama CORPORATION, Japan*

**Koya Nabeno**, *Ichinomiya city office, Japan*

**Takuya Iwamoto**, *Sumitomo wiring system CORPORATION, Japan*

**Rikuya Mizuno**, *Okute hospital, Japan*

**Wu Jun**, *SUMITOMO RIKO COMPANY, Japan*

**Satoshi Hosokawa**, *Tsuchiya yack, Japan*

**Yusuke Tanaka**, *JTEKT CORPORATION, Japan*

### Abstract

Purpose/ Research Question:

The purpose of this paper is to show the grass root social innovation cases among young generation in Japan. The traditional long-term employment system in Japan had been characterized as the strength of Japanese companies and economic development of Japan. However, in recent year situation has been drastically changing and more and more employees change jobs after short-term experience in one company. Under such circumstances, among young employees in various companies and current students are making grass root social innovation activities. How were the needs, motivation, practices and result of the grass root social innovation? This paper analyses the case of the university and business based social innovation.

In the near future, there is a gap between working image and promising college students. As the result, number of youth workers are leaving business or change their jobs. \*1 There are a few places that mainstay employees take over their experience to newcomers. Moreover, mainstay employees feel powerlessness that adjust social and company environment.

# The roles of business network centralities on firm performance: An explorative study in Tokyo manufacturing

Zhao An, *PhD candidate, University of Tokyo*

Antonio K.W. Lau (*Corr.*)

*Associate Professor, Kyung Hee University, Hong Kong*

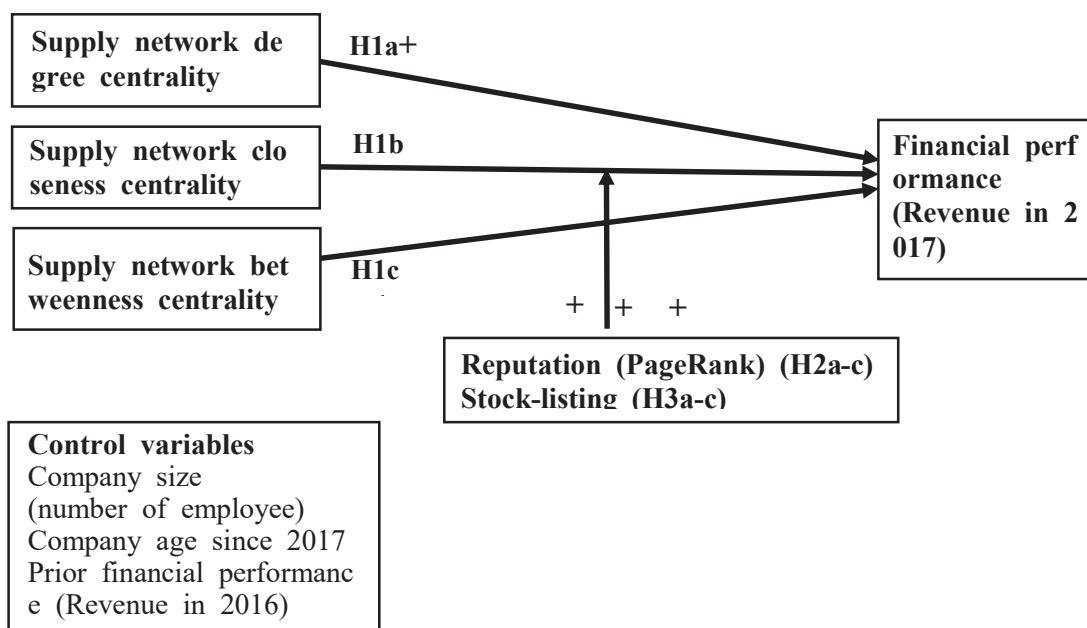
## Abstract

Purpose/ Research Question:

To examine the industrial relationships of three critical social network attributes, including out-(in-) degree, betweenness and closeness centralities (Geletkanycz et al., 2001; Freeman, 1978) on a firm's business performance (Tani et al., 2018; Kim and Lee, 2018; Yun et al., 2016).

To our best knowledge, the impacts of these three centralities on business performance in an industrial sector level have not been well examined together in literature, particularly in the context of Tokyo Electronics and Machinery industries.

To examine the roles of reputation (measured by PageRank/Eignvalue) and stock-listing to the relationships.





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# Effect of partnership quality on SMEs success: Mediating role of coordination capability and organizational agility

**Hsian Ming Liu**

*Ph.D., National Defense University,*

**Cheng Lun Lee(Corr.)**

*Master, National Defense University, Taiwan*

## **Abstract**

### **Purpose**

This study proposes that a firm could construct better partnership to access external and complementary resources to improve its coordination capability and enhance organizational agility for responding the variability of business environment, then leading superior organizational performance.

### **Literature Review**

Partnership quality

Partnership quality has been identified as a valuable, inimitable and non-substitutable relational resource that allows SMEs to be competitive (Chadee et al., 2011, Lahiri and Kedia, 2009; Raman et al., 2013). Extant researches indicated that partnership relies on the principle of joint and mutual dependent actions based on mutual trust, commitment, and business understanding and then results in improved performance (Claro et al., 2003; Lee and Kim, 1999; Lahiri and Kedia, 2009). Good partnership can help a SME to better understand the nature of their partner capability and their business pulsation. Lahiri and Kedia (2009) further indicated that the notion of partnership quality can be defined as a SME's perception of the extent of matching of partnership outcomes and expectations. High quality relationship not only mean the members in cooperation could enhance their status as reliable partners and aid them to meet their expectations for further development, but also ensure future cooperation continuity and/or awarding of newer support by the partners.

## The role of media pattern in the knowledge collaboration: focusing on the online space

**Jiyeon Chang**

*Ph.d candidate, Technology management economics and policy, Seoul National University, Korea*

**Junseok Hwang**

*Position (Ex. Prof. Researcher, Ph.D., Master, CEO, and etc.), Affiliation (Ex. University, Institute, Company), Nationality*

**Namjun Cha (Corr.)**

*Ph.d candidate, Technology management economics and policy, Seoul National University, Korea*

### Abstract

Collaboration has become a core competency to create new knowledge. Thus, previous studies have emphasized the way to encourage the organizational knowledge collaboration. In this context, media technology was also considered as a catalyst for boosting the communication between the sources of information. The role media in knowledge collaboration has been limited to a channel for exchanging information, because media is likely to conduct unidirectional information delivery. However, media used in online communication is bidirectional or multi-directional. This characteristic gives people can participate to collective activities such as discussion, evaluation or making documents. Consequently, the role of media in online space focused on delivering individual knowledge to other people rather than just adopting selected information. We studied the effect of media usage patterns on creating knowledge in online community. In our study, we divided user group into three based on the degree to which people participate to knowledge collaboration in the online space: creator, participant and consumer. From the result, we found that the creator group is likely to use PC and their activities focus on the entertainment such as watching video, SNS, online commerce, game or listening.



# How to overcome uncertainty? : Impact of firm-level uncertainty on firm's alliance portfolio management in the pharmaceutical industry

**Eungdo Kim(Corr.)**

*Assistant Professor, Department of Health Science Business Convergence, College of Medicine,  
Chungbuk National University, Republic of Korea*

## **Abstract**

The pharmaceutical industry is one of the most research-intensive industries and characterized by high uncertainty and hyper competition. To alleviate this various uncertainties (internal and external) and increase performance, firms enter into alliance portfolio management with different partners (public and private), phases (early and late) and types (partnership, licensing). In this paper, we first classified various uncertainties into internal (technology, skill, finance) and external (market, demand) and measure them by using forecasting model. And then, we present empirical evidence on the effect of uncertainty on firm's alliance portfolio management, and also, this alliance management finally affects to the firm performance. To test these propositions, case of US pharmaceutical industry is selected and an integrated data set consisting three different data sets is used: Alliance data from Medtrack, product data from Medtrack and Orange Book, firm data from Compustat, and patent data from Lexis Nexis Total Patent database.

## **Purpose/ Research Question**

The pharmaceutical industry is facing severe challenges to its business model (Paul et al., 2010) and are under constant severe pressure to discover new drugs. Drug development process is time-consuming and expensive (DiMasi et al., 2003). Also high uncertainty and low success rate of drug development are central to company survival (Shin et al., 2018) and thus it is crucial for policy maker (Shin et al., 2018). Also, pharmaceutical firms are confronted various uncertainties such as scientific developments and changing industry environment (Ding et al., 2016), pharmaceutical R&D is facing a productivity crisis characterized by stagnation in the numbers of new drug approvals in the face of increasing R&D costs (Rafols, Ismael, et al., 2014).



## Achieving Sustainability in the Construction Supervision Process

**Svetlana Mjakuškina (Corr.)**

*PhD student, Head of the State Construction Control Bureau of Latvia, Institute for Quality Engineering at the Faculty of Engineering Economics and Management of Riga Technical University, Kalnciema iela 6, Riga, LV-1048, Latvia*

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**Inga Lapina**

*Professor, Institute for Quality Engineering at the Faculty of Engineering Economics and Management of Riga Technical University, Kalnciema iela 6, Riga, LV-1048, Latvia*

**Purpose:** A critical attention should be drawn to the construction supervision process to ensure safe, compliant and sustainable construction in the environment where various actions are taken to reduce the administrative burden aiming to stimulate the growth and development of the construction industry. The effectiveness of the construction supervision process is vital to risk prevention and compliance of the construction process with the set requirements which, as a result, leads to the protection of public interests and needs. There are different construction supervision practices, techniques and approaches worldwide, however, this sphere is not harmonized, it lacks a common approach. The scientific aim of the research is to identify the main principles and elements within the construction supervision process to achieve the sustainability of this process. The results of the survey are significant to the development of the construction supervision process in order to apply development principles to a building's life cycle.

**Key Literature Reviews:** In the recent years, the construction industry has faced major challenges in ensuring a balance between environmental, social and economic aspects and the manner in which the construction process is realized. [1]. It is now critical to seek new approaches and apply creative and innovative solutions to the improvement of the construction process to be competitive and sustainable on the marketplace [2]. Digitalization, automatization and use of new technologies in the construction processes are becoming an integral part of the construction operations.



# The Role of Network in Improving Innovative Performance: Based on the Service Firms

**Daesu Kim**

*Senior Researcher, School of Business, Yeungnam University, South Korea*

**Sanghyun Sung**

*Prof., Department of Industrial and Management Engineering*

*Pohang University of Science and Technology, South Korea*

**Junghyun Yoon (Corr.)**

*Prof., School of Business, Yeungnam University, South Korea*

## Abstract

### Purpose/ Research Question:

- In this study, we researched the influence of the initial relationship of entrepreneurial firms, that are located in service industry, on innovation.
- The existing studies mainly focus on the advantages inherent in a strongly connected network, but this study investigates the implications of indirectly connected networks on the relationships among the industries.
- In other words, we focused on analyzing how competitive exposure by strong intermediaries can affect innovation, based on service firms

### Design/ Methodology/ Approach

- The population of this study is companies of service industry that want to invest with the judges and partners of venture capital companies in Korea.
- Through interviews and questionnaires with them, the theories presented in this study were verified.

# Identification of opportunities for innovations through collecting problems from citizens

**Karine Oganisjana\*(Corr.).**

*Assoc. Prof, Leading researcher, Ph.D. in pedagogy, Riga Technical University, Latvia*

**Konstantins Kozlovskis**

*Assoc. Prof, Ph.D. in economics, Riga Technical University, Latvia*

## **Abstract**

This paper is going to present the findings of a research conducted with the aim to explore the feasibility of collecting problems from citizens in order to identify new valuable ideas of really useful innovative products and services. The data were collected in the autumn semester of 2018 in Riga Technical University (RTU) by Master's students under the supervision of the authors. Over 500 respondents shared their views on the problems which to their minds are worth solving; they also provided their visions of how these problems could be solved and what kind of products or services could be created in the result. The principle of this survey for getting citizen-driven innovation ideas was "One citizen – one problem". This was to ensure a bottom-up direction for the promotion of meaningful innovations based on the building of an open channel for collaboration between consumers-to-be and university with the further intention to create a bank of problems and innovation ideas for companies.

**Purpose/ Research Question:** What kinds of innovative product and service ideas can be created from the problems highlighted by citizens?

**Key Literature Reviews** Prospective innovations begin as problems or ideas and flow along the action pathway getting developed through stages such as opportunity recognition, development, realization, and learning (O'Sullivan & Lawrence, 2009). The very first stage which is called also as opportunity identification (Baron, 2006), opportunity creation (Sarasvathy et al., 2003) and opportunity development (Sanz-Velasco, 2006) is crucial as it drives, gives meaning and directs all the processes for creating new economic values. Should the opportunity identification be a top-down or bottom-up process is becoming a topical issue being discussed by scholars (Saari, et al., 2015).



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# A Repository Architecture for the Start-up Business Process

**Hokyeom Kim**

*Ph.D Student, Department of Industrial and Management Engineering,  
Pohang University of Science and Technology (POSTECH), Republic of Korea*

**Junghyun Yoon**

*Assistant Professor, School of Business  
Yeungnam University, Republic of Korea*

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*Research Assistant Professor, POSTECH Entrepreneurship Center  
Pohang University of Science and Technology (POSTECH), Republic of Korea*

## Abstract

### Purpose/ Research Question

Most Preliminary entrepreneurs don't have any experience about managing startup. It is important for them to know business process and knowledge of their company in order to manage a company successfully. Nevertheless, they have trouble understanding process of their company and finding information when they perform business process. Recently, many web sites that help information for startup appear but they are not considering in terms of entrepreneur. To solve this problem, in this paper, it purposes the start-up business process repository architecture that provide meaningful management information data for successful startup.

### Key Literature Reviews (About 3~5 papers)

The three important factors, that directly affect the performance of new venture creation, are human resource, physical resource, and opportunity. In order to maximize the performance, an appropriate combination of these factors is required, which could be achieved through systematic management [1]. Moreover, insufficient resources and absence of networks with external stakeholders are the some of the reasons why startup companies face difficulty in surviving the competition with existing companies [2].

Research on the factors necessary for startup operations has seen much progress. However, there is paucity in the study of how startups should be operated during startup operations. Entrepreneurs consider entrepreneurial activity like black boxes: where the inputs and the outputs

# Why They Go There: Maslow's Hierarchy of Needs and Revisit Intention

**Yingyueh Su**

*Assistant Professor, Department of International Trade, Chinese Culture University, Taiwan*

**Yusheng Yu**

*Master Student, Department of Global Branding and Marketing, Chinese Culture University, Taiwan*

## **Abstract**

The tourism industry is considered one of the largest and fastest growing industries in the world. Travel motivation forms an integral part of travel behavior and has been widely researched and applied in tourism marketing strategies. Previous studies pay lots attention on the new destination as travelling purpose. However, the motivation and the revisit intentions remain largely explored. The destination choice has always been an important aspect in tourism literature and there are various factors influencing travel decisions. In the other words, the need to see the unseen and know the unknown drives people to revisit places and motivates them to visit destinations again. Since time immemorial, travel motivation is one of the most researched themes in the tourism literature. Regarding the increasing of the education level in Taiwan, the popularity of online social media, the rising of chain hotels establishment, and more convenient transportations all have intensified the willingness of Taiwanese to travel abroad. This research applied the Maslow's hierarchy of needs theory to investigate each level of need and its influences on revisit intention. Two focus groups have performed to facilitate understanding the impact factors of the motivation and revisit intentions. The study established that tourist motivation has relationship with their satisfaction; likewise, satisfaction is a determinant of their revisit intentions. The result recommended that service providers and destination managers should work at customized travel package design and ensuring tourist satisfaction in order to ensure repeat visits.

Key words: Maslow's Hierarchy of Needs, Revisit intention, Tourism Industry

## **Introduction**

The tourism industry is considered one of the largest and fastest growing industries in the world. Tourism is an inherently social phenomenon. The fascinating phenomenon of tourist behaviour deals with topics such as motivation, destination choice, travellers' on site experiences, satisfaction and learning.



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# Exploring the Enablers of Strategic Orientation for Technology-driven Business Innovation Ecosystem

**Ta-Kai Yang**

*Assistant Professor, Department of Advertising, Chinese Culture University, Taiwan*

**Min-Ren Yan**

*Professor, Department of International Business Administration, Chinese Culture University, Taiwan*

## **Abstract**

**Purpose/ Research Question:** Business models driven by technological innovations have helped develop and led growth in various markets. The concept of an innovation ecosystem has been proposed by the academic community and is widely used to interpret the connection between technological innovations and market development. However, such a relationship needs to be examined by different individual cases before the concept can be generalized. Strategic orientation is important for obtaining competitive advantages by establishing value for firms (Wei, Austin Rong-Da & Su-Chang, 2014). Consequently, this study investigates the relative and collective influence of various orientation on technology-driven Business Innovation Ecosystem. It also targets to see whether there is any clue undiscovered as of yet in this concept.

## **Key Literature Reviews:**

The innovation ecosystem interprets the dynamic causal circles of technological innovation, market development, and business model through interconnections among innovation actors (Rabelo et al., 2005). However, past literature also addressed the disparities in performance of companies due to their execution abilities (Slater et al., 2006) and resource allocation processes (Morgan, Vorhies, and Mason, 2009), which are influenced by their strategic thinking (Song, Droge, Hanvanich, and Calantone, 2005). This is an important influential factor unmentioned in the innovation ecosystem. Hence, this study redefines this concept from the perspective of different strategic orientations.

# Dominant Design and Evolution of Electronic Bicycles Comparative Analysis of Three Cases, Daegu South Korea, Naples Italy, and Nagoya Japan

**JinHyo Joseph Yun** (*Corr. DGIST, and Open Innovation Academy of SOLtmC*)

**Xiaofei Zaho** (*DGIST and Open Innovation Academy of SOLtmC*)

**KyungBae Park** (*Sangji University*)

**Yuri Sadoi** (*Meijo University*)

**Giovanna Del Gaudio** (*University of Naples Federico II*)

## Abstract

After passing more than 100 years from the emergence of the dominant design of the traditional bicycle, diverse electronic bicycles are appearing as a kind of destructive innovation in the bicycle industry. We want to answer two questions: 1) How is the electronic bicycle evolving and what is its dominant design? 2) What is the difference in the evolution and appearance of the dominant design of the electronic bicycles in Daegu, Naples and Nagoya? We conducted a case study of three cities, Naples, Nagoya and Daegu, using the participatory observation and intensive interview methods. According to our research, the three cities are located at different points on the dominant design curve with different ratios of electronic bicycles to total bicycles. Naples is in the step of BM-based new market creation, with the fat-tire electronic bicycle as the most popular type of electronic bicycle. Daegu is in the step of technology-based new market creation, with the electronic quick board as the primary type of electronic bicycle. Finally, Nagoya is undergoing technology-based existing market expansion with the electronic bicycle design, which is the same as the dominant traditional bicycle design.

**Keywords:** dominant design, evolution, electronic bicycle, open innovation



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## Entrepreneurial universities: cases from Taiwan

**Jonathan C. Ho (Corresponding Author)**

*Professor, College of Management, Yuan Ze University, Taiwan*

### Abstract

**Purpose/ Research Question:** The core mission of a traditional university has been teaching and research. With the developing trends in technological innovations, knowledge economy, and globalization, universities are assigned with a new mission to generate economic welfare with innovations and entrepreneurships. For this purpose, the university-government bilateral relationship has evolved to be a government-university-industry triple helix relationship. In Taiwan, the government ministries have had quite a few initiatives such as funding college graduates for business ventures with the U-start Program, the Germination program for technological startups, and Technology Development Programs, TDPs for collaborative technology commercialization. All these initiatives have been driving universities to play some roles in making social and economic impacts. While such initiatives are all of good intentions, it calls for transformation of conventional universities toward innovative or entrepreneurial universities. This research proposal intends to tackle issues related to the transformation to entrepreneurial university in Taiwan.

**Key Literature Reviews (About 3~5 papers):** Originating in the European setting in the 1990s, Entrepreneurial University was the concept to add the critical capability in building institutional entrepreneurship (Clark, 1998). The entire university, of its colleges, departments, faculties, and research centers should all work a whole and connect to its surrounding social system as an "enterprise." One of the main purposes of EU effort is to create economic impact through the interactions among academic researches, industry and society development, and economic growth. In addition to teaching and research, entrepreneurial universities are expected to make impact on economy and society through entrepreneurial innovations.

While the research of the university consortium used innovative university as a loose synonymy of entrepreneurial university, Clark preferred the later and suggested that entrepreneurial transformation of a university should incorporate five fundamental elements including a strengthened steering core, an expanded developmental periphery, a diversified funding base, a stimulated academic heartland, and an integrated entrepreneurial culture.



## **Sustaining the family business through open innovation: Focusing on technological acquisitions**

**He Soung Ahn**

*School of Business, Sejong University*

Because technological change is typically frequent and rapid in speed (Sakar et al., 2006), technological acquisitions have become a prominent means of open innovation that allows firms to complement internal innovation. However, technological synergies that arise from successful integration is even more difficult to achieve compared to synergies that arise from nontechnological acquisitions. Under the circumstances, shareholder value creation effects of technological acquisitions may be influenced by firm-specific factors (e.g., governance structure) that can affect the firm's ability to successfully extract technological synergies.

This paper examines whether technological acquisitions undertaken by family businesses creates value. Despite the value of technological acquisitions are a tool to achieve open innovation, I suggest that outsiders are more likely to be skeptical the about the family firms' ability to create technological synergy. For instance, as technological synergy requires the novel recombination of technological capabilities from both firms, the acquirer needs to provide autonomy to target firm's knowledge workers. Because family owners prioritize nonfinancial goals that are family-centric, they may be less willing to cede such discretionary power over to these external parties (Kotlar, et al., 2013). Thus, technological acquisitions conducted by family firms are likely to be negatively perceived by shareholders, thereby leading to a decrease in shareholder value.

Moderating factors that lessens outsiders' concerns about the value creation of technological acquisitions in family firms are examined. First, the negative impact of technological acquisitions on family firms' shareholder value should weaken when the firm has higher technological capability. Technological capabilities are key sources of absorptive capacity in the realization of synergy in technological acquisitions because they allow the acquirer to recognize and execute the opportunities for novel recombinations (Sears & Hoetker, 2014). Second, the negative impact of technological acquisitions on family firms' shareholder value should weaken when industry peers are diversifying through acquisitions.



# Green Governance Responsibility, Corporate governance and Investors' Reaction

**Weian Li**

*Professor, Business School, Nankai University, China Academy of Corporate Governance, Tianjin, China*

**Guangyao Cui**

*Ph.D, Business School, Nankai University, China Academy of Corporate Governance, Tianjin, China*

**Minna Zheng✉ (Corr.)**

*Ph.D, Business School, Nankai University, China Academy of Corporate Governance, Tianjin, China*

**Yaowei Zhang**

*Associate Professor, Business School, Nankai University, China Academy of Corporate Governance, Tianjin, China*

## **Abstract (including the following aspects)**

**Purpose/ Research Question:** With the deterioration of natural environment, enterprises are required to undertake more responsibilities in green governance. From the perspective of short-term benefits, enterprises have to afford additional cost when they actively carry out green responsibility. However, the long-term value of green governance responsibility still needs further research. This research mainly explores the long-term values of enterprises' green governance responsibility behavior from the perspective of investors' reaction. Through this research, we expected to find that enterprises would gain positive long-term values when they undertake green responsibility. If enterprises could gain long-term value return, they would have motivation to take green responsibility. Thereby, this research will provide enterprises valuable suggestions when they deal with green responsibility decisions, and help to improve the natural environment finally.

Considering the different types of investors, this paper further discusses the impact of different types of investors on the relationship between corporate green governance responsibility and investor response. The empirical results show that compared with individual investors, institutional investors have a significantly positive impact on the relationship between corporate green governance responsibility and investor response. This is because institutional investors have more advantages in information acquisition and enterprise supervision. Moreover, this paper also investigates the influence of corporate governance level on the relationship between green governance responsibility and investors' reaction.

## Open innovation ecosystem of restaurants - Comparative case study of successful restaurants of Italy, South Korea, and North Korea

**JinHyo Joseph Yun** (*corresponding, DGIST*)

**KyungBae Park** (*Sangji University*)

**Giovanna Del Gaudio** (*University of Naples Federico II*)

**Valentina Della Corte** (*University of Naples Federico II*)

### Abstracts

We want to know the truth of open innovation in the success of restaurants because restaurant is the starting point of service innovation in the history of human. Our research questions are as follows. Does an open innovation of restaurant is the rational strategy for a small restaurant to invite customers continuously? What kind of open innovation strategies does a small restaurant use? We set up open innovation ecosystem research model of restaurant with ingredients open innovation, menu or recipe open innovation, and service open innovation to analyze open innovation of small restaurants which we can see easily around us. We did case study on 4 successful Naples restaurants, 1 south Korea, and 1 north Korea restaurant to answer our research question with participatory observation method, and deep interview method with half-structured questionnaire. We found out 3 factors. First, open innovation is essential for the success of small restaurant. Second, if any small restaurant pursues closed innovation strategy any of 3 factors, food ingredients, menu or recipe, and service, should choose open innovation strategy or platform open innovation in the others to maintain competitive advantage compared to other restaurants neighborhood. Third, platform open innovation of any of food ingredients, menu or recipe, or service, can produce additional revenue by selling independent ingredients, or service.

**Key words** Open Innovation Ecosystem, Platform open innovation, restaurant, ingredient open innovation, menu or recipe open innovation, service open innovation



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# Green Governance: Connotation and Blockchain Based Implementation

**Runhui Lin (Corr.).**

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*School of Business & China Academy of Corporate Governance, Nankai University, People's Republic of China*

**Yuan Gui**

*School of Business, Nankai University, People's Republic of China*

**Lun Wang**

*School of Business, Nankai University, People's Republic of China*

**Biting Li**

*School of Business, Nankai University, People's Republic of China*

## Abstract

The issue of green governance has been and continues to be a hot topic for the world and China. However, extant research still has limitations on the connotation of green governance and ways of implementing green governance. The study argues that: (1) Realizing the harmonious and sustainable development of human beings and nature is one part of the overall objectives of green governance---achieving the "green" of ecological environment. Constructing a green governance system that consist of rational procedure, scientific decision-making process, and deliberative democracy is the other part---realizing the "social green" of human society; (2) The accomplishment of green governance objectives requires the broad participation of governments, enterprises, social organizations, and the public, etc. It is crucial to consider the willingness and attitude of each entity to participate in the process of green governance. The successful realization of green governance rely on a coordinative and collaborative system of each participants; (3) Blockchain is an effective way to achieve green governance objectives. This technology can solve many technological barriers and institutional obstacles in the implementation of green governance.

# Development of education model for improving collaboration creativity Based on the online learning system (Moodle)

**Eunjoo Kim**

*Professor, Eulji University, Republic of Korea*

**Hangsik Park(Corr.)**

*Professor, Eulji University, Republic of Korea*

## **Abstract**

Purpose/ Research Question:

In recent years, Korea has been spreading various online education methods that utilize IT technology along with its development. However, in most cases of online learning, the study of system design and effectiveness related to learners' self-directed learning skills is largely done, and the study of methods of teaching to enhance collaborative creativity is insufficient. In particular, research on the effectiveness and development of a Moodle-based education model, one of the online free learning systems, is incomplete. Accordingly, research on the Moodle-based online education model is needed to enhance the creativity of collaboration in the learners online learning environment [1].

Moodle's Online Learning Management System, an open source for eLearning, is the world's most popular learning management system except Blackboard. The Moodle Online Learning Management System is implemented simultaneously in PC and smartphone environments. Moreover, through collaborative learning, it can be expected to enhance collaborative creativity beyond the effectiveness of learning itself.

In response to these expectations, this study aims to develop a Moodle-based educational model to enhance learners' learning convenience and accessibility and to enhance their collaborative creativity. Specific research issues to achieve these objectives are as follows:

First, what are the components of the online learning system for promoting collaborative creativity?



# Dynamic eco-efficiency evaluation: An innovation perspective of sustainable development

**Sheng-Wei Lin\***

*Ph.D. Program in Management, College of Management National Taipei University of Technology,  
1, Sec. 3, Zhongxiao E. Rd., Taipei 10608, Taiwan*

**Wen-Min Lu**

*Department of Financial Management National Defense University  
No. 70, Sec. 2, Zhongyang North Rd., Beitou, Taipei 112, Taiwan*

**Tzu-Yi Fang**

*Fu Hsing Kang College National Defense University  
No. 70, Sec. 2, Zhongyang North Rd., Beitou, Taipei 112, Taiwan*

## Abstract

Purpose/ Research Question:

Serious environmental problems have accompanied with global remarkable economic growth for decades, which also have direct and indirect impacts on all people. To assist managers of the semiconductor industry in economic and environmental management, this study develops a dynamic two-stage production process including operating performance and environmental protection ability through the perspective of eco-efficiency by using the dynamic two-stage data envelopment analysis (DDEA). There is a necessary connection between a firm's stable financial foundation and its sustainable development. This study presents the results of financial factors through the DuPont Financial Analysis Model (DuPont analysis, hereafter), which we apply toward analyzing the profitability (returns on equity) of the semiconductor industry and its determinants in terms of profit margin, asset turnover, and equity multiplier (leverage).

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\* Corresponding author

## Graduate school education for regional innovation

**Norihiro Nishimura (Corr.)**

*Prof., Ph.D., Mie University, Graduate School of Regional Innovation Studies, Japan*

### **Abstract**

Purpose/ Research Question:

In graduate school education in Japan, the main purpose was traditionally to train basic researchers. With the aim of pursuing Western countries after the Meiji Restoration, it was fully valuable and functioning as the way of higher education was to form the academic foundation as strengthening the national strength. Since the Meiji Restoration, Japan, which has won the status as an advanced country after about a hundred years including the period of high economic growth after World War II, has reached the stage to utilize social infrastructure created during the economic growth period and academic base. Turning around, the present situation in Japan is stagnant in economic scale growth due to the bubble economy and its collapse. The response to that situation by dragging thought in the economic growing period has been resulting in social distortion and in the disparity between urban and rural areas in Japan. Japan has become a mature and stable society utilizing the infrastructure accumulated during the economic growth period and the background of society is rapidly changing. And the way of thinking needed at this stage and the way of human resource development should be different. Based on that idea, we rethought the way of graduate school education in mature economic society and especially felt the need for the definition of new doctoral human resources required in local society and the need to educate them. "Graduate School of Regional Innovation Studies" was then established in Mie University in April 2009. Based on the authors' experience, this study considers that the way of graduate school education that is required in society that shifted from economic growth stage to economic maturity stage and the significance of utilizing graduate school education for reeducation of persons who have work experience especially. Based on my educational experiences at the Graduate School of Regional Innovation Studies of Mie University, I introduce my idea such as "what is regional innovation needed for Japan" and "how to educate and empower human resources who create regional innovation."

### **Key Literature Reviews (About 3~5 papers):**

1. Papers showing doctoral education in graduate school<sup>1)</sup>.
2. Papers showing formation of economic structure and social infrastructure in Japan<sup>2)</sup>.
3. Papers showing regional innovation and its utility<sup>3),4),5)</sup>.



# Regional innovation by a public health nurse who started business in Japan

**Kazumasa Igura (Corr.)**

*Doctoral Student, Mie University, Graduate School of Regional Innovation Studies, Japan*

*CEO, Total Life Innovation, Japan*

## **Abstract**

Purpose/Research Question:

The present study aimed to report on my practice since 2014 as one of the public health nurses who work independently and examine other such nurses' roles. Furthermore, the ways to increase the number of public health nurses were explored by identifying benefits of their activities based on the findings of the survey with them.

### **Key Literature Reviews (About 3~5 papers):**

In the United States, healthcare expenditure has grown and will continue to increase<sup>1)</sup>. In Japan, it has grown and will continue to increase, too. Health care is complex innovation eco-systems<sup>2)</sup>. Accordingly, it is important for public health nurses to deal with intensive daily life needs of local residents in Japan. Public health nurses who work independently and play a part in community-based integrated care are considered to have roles of providing a new type of health service based on actual conditions of local communities. In Japan where the aging society is progressing, healthy aging is important to achieve sustainable development goals<sup>3)</sup>. Most public health nurses belong to organizations including local government institutions and private companies in Japan. However, there are public health nurses who work independently and do not belong to such organizations. No national survey has been conducted yet with these public health nurses in Japan. As of October 2018, 24 public health nurses who work independently were registered as members of the Japan Health Nurse Association. Specific activities of these public health nurses reported so far in Japan are: providing health training programs and consultation services<sup>4)</sup> and readily available health checkup programs<sup>5)</sup> and managing a town healthcare room for mothers<sup>6)</sup>.

As I have been working on the rental housing project for socially vulnerable people including those with mental disabilities for the first time in Japan, it is important for me to examine the contents of my activities. Moreover, it may be necessary to identify the benefits experienced by other public health nurses who work independently.



# An analysis of converged core capacity affecting team creativity of industrial workers

**Eunjoo Kim**

*Professor, Eulji University, Republic of Korea*

**Hangsik Park(Corr.)**

*Professor, Eulji University, Republic of Korea*

## **Abstract**

### **Purpose/ Research Question:**

The purpose of this study is to analyze the effect of core competencies of industrial workers on team creativity in order to establish the direction of core competency education of universities as the 4th industrial revolution era arrives. In addition, this study is to minimize the mismatch between university education and industry needs and to provide basic data for linkage education. Specific research issues to achieve these objectives are as follows:

First, what is the level of team creativity and convergence of industry workers?

Second, what is the impact of convergence of industry workers on team creativity?

### **Key Literature Reviews:**

In the era of the 4th industrial revolution, the future education emphasizes core capabilities. In particular, the creativity talent is required as a talent award for the future society, which combines knowledge and application to solve various problems. Gary Hamel, professor of London Business School, referred to team creativity as one of the virtues needed for a future society to work with and collaborate with people of different majors in various fields [1].



# Influential Factors Driving Entrepreneurs for Agricultural Cooperatives in Thailand

**Tipasuk Jaratjassada**

*PhD Candidate in Business Administration*

*Faculty of Business Administration, Ramkhamhaeng University, Thailand*

**Bob McClelland**

*Faculty of Business Administration, Ramkhamhaeng University, Thailand*

## ABSTRACT

This is an action research to study "Influential Factors Driving Entrepreneurs for Agricultural Cooperatives in Thailand." The objectives of the research are (1) to investigate internal factors support cooperatives to become international entrepreneurs; (2) finding factors drive cooperatives to become international cooperatives; and (3) to synthesize guidelines and supports for cooperatives from public and private sectors. The population in this study is farmers, community enterprise, members of agricultural cooperatives. Government and private agencies participated in 9 seminars of Department of Trade Negotiations, Ministry of Commerce and Cooperative Promotion Department, Ministry of Agriculture and Cooperatives. Data was collected from 1,413 participants, and there were 856 people of the sample group. This research can be summarized into three main points.

First, internal factor on human capital that influences a cooperative entrepreneur in Thailand found that the cooperatives have general human capital which is indifferent with the sample group and for specific human capital, there are some advantages in parts of entrepreneurs which have traits, knowledge, experiences in their careers. However, the researcher found 6 problems of the cooperatives that are required to be fixed and improved in order to have specific human capital to become international entrepreneur as follows:

- (1) Management Problems;
- (2) Problems on Products and Production Management;
- (3) Financial and Land Problems;
- (4) Problems on International Trade Knowledge.



Society of  
Open Innovation  
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# **SOItmC & Meijo University 2019 Conference**

**June 28(Fri.) - July 1(Mon.), 2019,  
Meijo University, Nagoya, Japan**

**June 29(Saturday)**



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## *June 29 (Saturday)*

**Venue: Room. 301, North Lecture Hall, 09:00~10:30**

### **Innovation systems in China, Korea and Japan**

**Chairs: Antonio K.W. Lau(Kyung Hee University, Korea) & Kaihua Chen(University of Chinese Academy of Sciences, China)**

- Paper 1: "International innovation collaboration in China" by **Kaihua Chen, Ze Feng, Xiaolan Fu\* & Yi ZHANG**
- Paper 2: "Measuring National Innovative Force From An Innovation Value Chain Perspective" by **Yuchen Li, Antonio K.W.Lau, Kaihua Chen\* & Yi Zhang**
- Paper 3: "The Suggestion of the Toyota production system using IoE by JTEKT" by **Yusuke Tanaka**
- Paper 4: "Challenges of Governmental Policy Changes In Myanmar Higher Education Development" by **Ye Tun Min**
- Paper 5: "Beijing as a Regional Innovation System: a case study" by **Meijiao Huang, G.S. Shin & Antonio K.W. Lau**
- Paper 6: "The Effect of Innovation Capabilities on Business Performance: Focused on IT and Business Service Companies" by **SeungHoo jin & SangOk Choi**

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## *June 29 (Saturday)*

**Venue: Room. 501, North Lecture Hall, 09:00~10:30**

### **What are the factors improving organizational performance?:**

#### **Entrepreneurial, Innovative, Knowledge Management Perspectives**

**Chairs: Junghyun Yoon(Yeungnam University, Korea) & Sanghyun Sung(POSTECH, Korea)**

- Paper 1: "What are the Characteristics of Entrepreneurial Business Process?" by **Sanghyun Sung & Junghyun Yoon\***
- Paper 2: "Professional Competence Assessment as a Key Element of Sustainability and Risk Prevention: Case of Construction Industry" by **Maija Kavosa\*, Svetlana Mjakuškina & Inga Lapina**

- Paper 3: "An Effectiveness of Start-up Intention on Adversity Quotient and Entrepreneurship" by **Dae-su Kim & Junghyun Yoon\***
- Paper 4: "Let's Consume the Green to Save the Environment!-A Comparative and Critical Discursive Perspective on Green Advertisings" by **Liu Shubo, Min-Ren Yan & Anqi Song**
- Paper 5: "Research on the Competition Strategy of Case Company Lithium Battery Safety Materials Entering International Market" by **Wei-Chuan Wang, Chi-Hsuan Lin & Hsiu-Chi Chang\***
- Paper 6: "Sustainability and Continuous Improvement of Organization: Review of Process-Oriented Performance Indicators" by **Aija Medne\* & Inga Lapina**

### ***June 29 (Saturday)***

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**Venue: Room. 503, North Lecture Hall, 09:00~10:30**

#### **Green Governance**

**Chair: Weian Li(Nankai University & Tianjin University of Finance and Economics, China)**

- Paper 1: "Opening the 'black box': The mechanism and effects of board power hierarchy to green governance performance-moderated by the corporate mission" by **Feiran Dong, Yongzhen Xie\* & Linjun Cao**
- Paper 2: "Unified Model of Sharing Economy and National Strategy" by **Yeji Kim & Minhwa Lee\***
- Paper 3: "Business model and open innovation of car sharing industry- Diversity among Uber of US, DiDi-Chexing of China, and Kakao-T of Korea" by **JinHyoJoseph Yun\*, Xiaofei Zhao, JinXi Wu, John C. Yi, KyungBae Park, WooYoung Jung**
- Paper 4: "Research on product design governance mechanism of sustainable transformation" by **Jingjing Li, Yongjian Li & Ying Ye**
- Paper 5: "Self-organizing Smart City 4.0 model based on urban evolution" by **Yeji Yun & Minhwa Lee\***
- Paper 6: "Collective Intelligence; emerging world in open innovation" by **JinHyo Joseph Yun\*, Euseob Jeong\*, Xiaofei Zhao, SungDeuk Hahm & Kim KyungHun**



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## June 29 (Saturday)

Venue: Room. 504, North Lecture Hall, 09:00~10:30

### Regional innovation to resolve regional challenges

Chair: Norihiro Nishimura (Mie University Regional Area Strategy Center, Japan)

- Paper 1: "Regional innovation by new type leapfrogging" by **Norihiro Nishimura\*** & **Haruki Odajima**
- Paper 2: "The necessity of esthetic education to improve the elderly happiness index of Korea" by **Kyu-Ok Shin, Na-Gyeong Yeom & Hang-Sik Park\***
- Paper 3: "A Study on the Impact of the Government's Balanced Development Policy on Regional Competitiveness: Focusing on Manufacturing Industry" by **Maeng, Cheol-Kyu & In-Jong Lim**
- Paper 4: "Evaluating Determinant Priority of Licensing deal in Bio-pharmaceutical Industry" by **Hee-eun Min, Eungdo Kim\* & Kwangsoo Shin\***
- Paper 5: "A Study on the Factors Influencing Public Technology-based Start-ups" by **Injong Lim, Jeonghwan Lee & Maeng, Cheol-Kyu**
- Paper 6: "Is the Groupthink Really inevitable fiasco?: based on the self-organized perspective" by **Namjun Cha\* & Junseok Hwang**

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## June 29 (Saturday)

Venue: Room. 301, North Lecture Hall, 14:30~16:00

### Innovation effect by the 4th industrial revolution

Chair: Sang Ok Choi (Korea University, Korea)

- Paper 1: "What Determines Organizational Innovation in Public Sector?" by **GyeongMin Nam & SangOk Choi**
- Paper 2: "The transitional analysis of the open Innovation business model of the Japanese automobile industry" by **Yuri Sadoi**
- Paper 3: "The study on the effect of patent retrieval behavior on market awareness of teachers in the technical and vocational colleges and universities" by **Lo, Chih-Cheng\*; ChiaoLing Wang & Peng, Hsiao-Yun**
- Paper 4: "Digital Innovation adoption & its economic impact" by **HyunJee Park & SangOk Choi**

- Paper 5: "Impact of Social Robots on Society and Economy in Japan" by **SHAPOSHNIKOV Sergei**

## **June 29 (Saturday)**

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**Venue: Room. 501, North Lecture Hall, 14:30~16:00**

### **Sustainable System Development for Economics, Social Value, and Green Innovations & Open Innovation Ecosystem, Business Model Development, and Strategic Management**

**Chairs: Min-Ren Yan(Chinese Culture University, Taiwan) & Li Kun(NanJing Audit University, China)**

- Paper 1: "A Strategic Architecture of Sustainable System Development Education for Industry, Innovation, and Global Value Creation with SDGs" by **Min-Ren Yan**
- Paper 2: "Analysis on Topic Trends of Open Innovation using Topic Modeling" by **Joong Hoon Ko & Dae Cheol Kim\***
- Paper 3: "Integration of Kano's Model into QFD for Product Design" by **Ulugbek Kirghizov & Choonjong Kwak\***
- Paper 4: "Study on the business model of post-natal nursing institutions in Taiwan and China" by **Min-Ren Yan & Pei-ling Liu\***
- Paper 5: "The construction of the AI model of medical beauty tourism marketing - from the perspective of brand" by **Chi-Hsuan Lin, Wei-Chuan Wang, Yu-Ting Chen**

## **June 29 (Saturday)**

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**Venue: Room. 503, North Lecture Hall, 14:30~16:00**

### **4th Industrial Revolution**

**Chair: MinHwa Lee(KCERN, Korea)**

- Paper 1: "A virtuous circle job model of 4th Industrial revolution" by **Aesun Kim & Minhwa Lee\***
- Paper 2: "Exploring innovation ecosystem from the perspective of sustainability: towards a conceptual framework" by **Zheng Liu & Victoria Stephens**
- Paper 3: "OPPORTUNITIES PRESENTED BY CRISIS : THE UPGRADING OF CHINA PHOTOVOLTAIC" by **JIN Jun**



- Paper 4: "The 4th Industrial revolution and Smart revolution" by **Kangjin Ju & Minhwa Lee\***
- Paper 5: "Analysis of the Private Sector Development of Vietnam in Innovative Capability through Human Resource Development" by **NGUYEN MANH QUAN**
- Paper 6: Determinants of Innovation in the Internet of Things SMEs" by **Dong-Il Shin, DaeSoo Kim\* & Sun-Young Park**

***June 29 (Saturday)***

**Venue: Room. 504, North Lecture Hall, 14:30~16:00**

### **Innovation and Convergence & Global Digital Innovation and Intellectual Property**

**Chairs: Jeonghwan Lee(Myongji University, Korea), Yang Cheng(Aalborg University, Denmark) & Ben Zhang(Huazhong University of Science & Technology, China)**

- Paper 1: "Samsung Electronics' Transition in M&A Strategy and its Implication through Harman International Cases" by **Jung Hyun Kim, Duong Thi Hong Nhung & Jeonghwan Lee\***
- Paper 2: "HOW DO MOBILITY DIRECTION AND HUMAN ASSETS OF MOBILE ENGINEERS AFFECT JOINT KNOWLEDGE CREATION AFTER M&As?" by **Namgyoo K. Park, Monica Youngshin Chun & Jeonghwan Lee\***
- Paper 3: "Effect of student activity participation on accounting learning" by **Yeon Hee Park, Tae-Young Paik & Jeongho Koo\***
- Paper 4: "Risk Taking and Open Innovation: Exploring a Creative Business Model" by **Minseo(Emily) Jung**
- Paper 5: "New Business model for enterprise system development -Unicage methodology" by **Nobuaki Tonaka**



### ***June 29 (Saturday)***

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**Venue: Room. 301, North Lecture Hall, 16:30~18:00**

#### **Industrial Alliance and Open Innovation & Does Smart cities become new growth engine of future living?**

**Chairs: Lih-ren Li(National Taichung University of Science and Technology, Taiwan),  
JungHee Han(HongIk University, Korea) & ChangHwan Shin(Kyungpook National University, Korea)**

- Paper 1: "Social-oriented cooperation program Development of economic and social effect measurement model" by **DaeGeon Kim, SeungHoo jin, GyeongMin Nam & SangOk Choi**
- Paper 2: "Smart city as a driver of innovative economy on the example of Moscow" by **Maxim PONOMARENKO**
- Paper 3: "Multiplier technology factors and technological DNA" by **Sunghoon Chung & Junghee Han**
- Paper 4: "Effects and Responses of Taiwan-Japan Industry Cooperation Policy in Tokai Region, Japan" by **Kuan-Ju Lin, Yahn-Shir Chen**
- Paper 5: "The New Future of Display: Road Vehicle" by **Hyun Jun, Park, Yong Rae, Cho\* & Myungsoon Kim**

### ***June 29 (Saturday)***

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**Venue: Room. 501, North Lecture Hall, 16:30~18:00**

#### **Efficiency Issues from the Open Innovation Perspective & Sustainable transition of industrial ecosystems: the experience from China**

**Chairs: DaeCheol Kim(Hanyang University, Korea) & Jinxi Wu(Tsinghua University, China)**

- Paper 1: "Smart City Governance with Sustainable System Development Framework-An Empirical Study of Taipei City" by **Min-Ren Yan, Cheng-Sheng Pong, Ahmad Hadavi**



- Paper 2: "Efficiency Analysis of R&D Investment for SMEs by Ministries of Korea by Public Agencies (in Korea)" by **Eun-song Bae, Sung-Hun Park, Joong-Hun Ko & Dae Cheol Kim\***
- Paper 3: "Exploration on building a green governance system in a comprehensive way: Based on Japanese experience" by **Li wei an & Qin Lan**
- Paper 4: "How Social Innovation Creates Shared Value for Sustainable Community Development: The Case of Kaohsiung Arena" by **Min-Ren Yan, Lin-Ya Hong, Hui-Lan Chi, Ray-Yin Kuo**
- Paper 5: "Study on the change of residential energy consumption pattern and the potential of carbon emission reduction under the sharing economy-Taking bike sharing as an example" by **Hui Zhao & Jinxi Wu**
- Paper 6: "Development of pavement deterioration model based on machine learning method" by **Seunghyun Choi & Myungsik Do\***

### *June 29 (Saturday)*

**Venue: Room. 503, North Lecture Hall, 16:30~18:00**

#### **Innovation ecosystem and policy & Technology Valuation**

**Chairs: Lei Ma(Nanjing Univ. of Science and Technology, China) & Zheng Liu(Nanjing Univ. of Science and Technology, China & Univ. of South Wales, U.K.) & Tae-Eung Sung(Yonsei University, Korea)**

- Paper 1: "The innovation ecosystem formation mechanism of intellectual property operation based on Internet" by **Lei Ma, Ben Zhang\*, Tao Li & Xin Liu**
- Paper 2: "Bridging the Gap in the Commercialization Process of Digital Innovative Technology: Focusing on 3 stage Technology- Product- Market Model" by **Minseo Kim, Sun-Young Park\* & Hyesu Park\***
- Paper 3: "Patent Risk Evaluation in International Trade Based on the Analytic Hierarchy Process and Entropy Method" by **Ben Zhang\*, Lei Ma, Zheng Liu, Fuxin Wang**
- Paper 4: "Study on the Prediction of Economic Lifetime for Converging multi-component technology and its Application to Practical Cases for Technology Valuation" by **Tae-Eung Sung, Eungdo Kim, Kwangsoo Shin, Jongtaik Lee\***
- Paper 5: "A study on Technology Development Performance and Technology Commercialization according to Technology Development Capacity of SMEs"

Focusing on comparative Analysis Technology Business Groups” by **Hyun-ji Kim, Sun-Young Park\* & Won-IL Joh**

- Paper 6: “How pipeline management affects on innovation performance in pharmaceutical industry” by **Nahmryune Cho, EungdoKim\* & KwangsooShin**

### ***June 29 (Saturday)***

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**Venue: Room. 504, North Lecture Hall, 16:30~18:00**

#### **Co-creation design**

**Chair: Sunah Kim(Kumoh National Institute of Technology, Korea)**

- Paper 1: “Toward an inclusive approach to accommodate diverse users of medical devices” by **Taesun Kim**
- Paper 2: “Sharing What Is Learned from Outside Industrial Training with Organizational Peers” by **Yoshi Takahashi, Than Than Aung\* & Mon Mon Oo & Nu Nu Mai**
- Paper 3: “The implementation of ECG Measurement System based on the Android Platform” by **Woongsik Kim**
- Paper 4: “The development of Intelligent logistics management system using Android Platform” by **Yongsuk Kim**

### ***June 29 (Saturday)***

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**Venue: Room. 301, North Lecture Hall, 18:10~19:40**

#### **Environmental innovation and executive communication**

**Chairs: Chih cheng Lo(National Changhua University of Education, Taiwan) & Chunhsien Wang(National Chiayi University, Taiwan)**

- Paper 1: “Managerial compensation and environmental innovation” by **Chang, Ching-Hsing**
- Paper 2: “Open Collaborative Innovation in Informal Economy: The Emergence of Shenzhen Mobile Phone Industry” by **Yu-Chun Chen & Chen, Min-Nan**



- Paper 3: "Evaluation for Alternatives of Land Use Plan in the Process of Climate Change Adaptation" by **Sangdon Lee and Jiyoung Choi**
- Paper 4: "The impact of Augmented Reality in the Perception of Environmental Issues" by **Seo-young Lee**
- Paper 5: "Chlorophyll estimation using low-resolution camera mounted on unmanned aerial vehicle in the buckwheat field to reduce nitrogen fertilizer waste" by **Dong-Wook Kim, Tae-Sun Min, Hak-Jin Kim & Yong Suk Chung**

### *June 29 (Saturday)*

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**Venue: Room. 501, North Lecture Hall, 18:10~19:40**

#### **Urban Management**

**Chair: MyungSik Do(Hanbat National University, Korea)**

- Paper 1: "Eco-innovation in textile industrial cluster from network perspective" by **Wei Cong, Lin Hou & Lei Shi\***
- Paper 2: "Environmental potentials of best available techniques -the case of some key industrial sectors in China" by **Rubing Ge, Wei Cong, Lin Hou & Lei Shi\***
- Paper 3: Using DEA and DuPont analysis to explore the innovation ability and business performance of global companies in the aerospace and defense industry" by **Wen-Min Lu, Yao-Chieh Chen, Qian Long Kweh & Yueh-Cheng Wu**
- Paper 4: "Analysis of Factors Influencing the Matching of Ride-Hailing Service using Machine Learning Method" by **Myungsik Do\*, Wanhee Byun, Dohkyoum Shin & Hyeryun Jin**
- Paper 5: "SDGs Booming in Japanese Big Businesses: Implications to IoT, Financial and Social Innovations" by **Mari Iizuka**

### *June 29 (Saturday)*

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**Venue: Room. 503, North Lecture Hall, 18:10~19:40**

#### **Innovation and Entrepreneurship in Management of Technology**

**Chairs: SunYoung Park(KonKuk University, Korea) & Dong-Hoon Oh (The University of Seoul, Korea)**

- Paper 1: "An empirical study on the obstacle factors affecting R&D outsourcing on a basis of Innovation Resistance Model: Focus on the Automotive R&D in Korea" by **Jinhyung Kim, Dong-Hoon Oh\*, Sun-Young Park & Hyun-ji Kim**
- Paper 2: "Collaborative Green Business Ecosystem and Strategic Development with Open Innovation Platform" by **Min-Ren Yan and Jen-Ming Weng**
- Paper 3: "Research on Evolution and Consisting of Platform Business Model based on Structured User Resource" by **Li Kun**
- Paper 4: "Research on the AI Model of Bank Credit Issuing and Lending - a Study on the Hotel Industry" by **Wei-Chuan Wang, Chi-Hsuan Lin, Yu-Fan Chang**
- Paper 5: "Evaluation of Technological Innovations and the Industrial Ecosystem of Science Parks in Shanghai-An Empirical Study" by **Min-Ren Yan, Yan Haiyan, Zhan Lingyun, Xu Menggen**
- Paper 6: "Construction of AI model of trust fund raising—to hotel industry as the raising of mark" by **Wei-Chuan Wang, Chi-Hsuan Lin & Chi Chen Tsai\***

### ***June 29 (Saturday)***

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**Venue: Room. 504, North Lecture Hall, 18:10~19:40**

### **Training of Trainers for Industrial Human Resource Development & Open innovation analysis**

**Chairs: Yoshi Takahashi(Hiroshima University, Japan) & Eui-Seob Jeong(Korea Institute of Science and Technology Information, Korea)**

- Paper 1: "Open Innovation guarantee practices for banking industry in Myanmar" by **Yuri Sadoi, Takeshi Arai & Ye Tun Min**
- Paper 2: "Do government R&D grants promote innovation efficiency in Korean Pharmaceutical Industry?" by **Kisoon Shin, EungdoKim\* & KwangsooShin\***
- Paper 3: "Human Resource Development for Creative Industry- Implication from "Cool Japan" and "Visit Japan" program" by **Motohiro Kurokawa**
- Paper 4: "The Influence of Open Innovation Strategy on cooperate Innovation Performance: Focus on Open innovation Type and stage" by **Seungmin Kim & EungdoKim\***
- Paper 5: "The impact of open innovation on patent registration fees" by **EuiSeob Jeong & SangWoo Kim**



# International innovation collaboration in China

**Kaihua Chen**

*Ph.D, Associate Prof. Institutes of Science and Development, Chinese Academy of Sciences, China*

**Ze Feng**

*Master, School of Public Policy and Management, University of Chinese Academy of Sciences, China*

**Xiaolan Fu(Corr.)**

*Professor. Department of International Development, University of Oxford, UK*

**Yi ZHANG**

*Lecturer. School of Management, Guangdong Ocean University, Zhanjiang 524088, China*

## Abstract

**Purpose/ Research Question:** International collaboration is very important in today's knowledge economy era, especially for the latecomers, such as China. In this context, enhancing international innovation cooperation is extremely important, and a dramatic growth of studies focus on international innovation collaboration. In addition to this important phenomenon which has important policy and practical implications, there are distinctive characteristics of international innovation collaboration which differs from domestic research collaboration. This requests a full understanding of international innovation collaboration as a field. As a result, international innovation collaboration meets more challenges compared with other kinds of research collaboration. This paper attempts to analyze China's international innovation cooperation from a more macro level. Combining theory with practice, we analyze the necessity of international innovation cooperation, China's practice and experience, and the status quo of China's international cooperation. At the end of the article, the paper gives suggestions on the problems existing at the present stage. At the academic level, this paper also collates and forecasts the future research areas of international innovation cooperation.

**Key Literature Reviews:** In academia, discussions on international innovation collaboration are emerging, and more and more countries believe that technology (S&T) collaboration is a key way to promote and maintain their global innovation competitiveness (Glänzel, 2001; Hwang, 2007).

# Measuring National Innovative Force From An Innovation Value Chain Perspective

**Yuchen Li**

*Phd. Candidate , Institutes of Science and Development, Chinese Academy of Sciences, China*

**Antonio K.W.Lau**

*Associate Prof. Researcher, Kyung Hee University, Korea*

**Kaihua Chen (Corr.)**

*Associate Prof. Researcher, Institutes of Science and Development, Chinese Academy of Sciences, China*

**Yi Zhang**

*Lecturer , School of Management, Guangdong Ocean University, China*

## Abstract

### **Purpose/ Research Question:**

In recent years the national innovation measurement appears, and develops a new perspective to measure the national innovation systems. While measuring national innovation performance is critical for researchers, policy-makers and industries, its current research are still in some exist views, for example the input-output perspective. However, this kind of perspective pays more attention to the overall input and output of national innovation, but not orienting towards simple results and considering less about different countries with different features. It may cause the problem that the policy-makers focus on the input part which can be easily controlled, and it also unfair to the countries which have the equal output and less input compared with some developed innovation countries. There is a valuable question that if we need to rethink the role of input in the entire innovation activities. Furthermore, innovation measurement is difficult as the simple indicators may make the policy-makers miss the key information, whereas the complicated ones may confuse them. So a set of succinct results-oriented indicators can be critical to not only provide the information that relates to the innovation at the national level, but also help the policy-makers to figure out the solutions for improving the innovation competitiveness. Thus, this study proposes a new composite index for evaluating national innovation activities, i.e. National Innovative Force (NIF). The NIF focuses on the innovation value transfer process from science to technology and industry innovation, reflecting different development stages of different countries.



# The Suggestion of the Toyota production system using IoE by JTEKT

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## **Abstract**

### **Purpose/ Research Question:**

The number of IoT devices is drastically increasing in the world, nearly 27 billion in 2017, and will surge to 125 billion in 2030 as reported by IHS Technology. Japanese government promotes using IoT devices for improvement of production efficiency. Japanese government (ministry of economy) called that politics "Connected industries". In the company base JTEKT Corporation call IoT business IoE solution and develop. This paper aims to provides an effective case of IoT company JTEKT under the concept of Toyota Production System TPS in Japan.

Key Literature Reviews (About 3~5 papers):

Many IoT business are introduced by some assays until now. However most of IoT business are rearrange a part of the works and pace up (Ishino 2016, Kodama & Shibata 2017, Kodama 2018, Jeong 2016). For example, home electric appliances (air conditioner, Illumination HDD recorder) are connected for remote control and security (Kohno et al 2015). In financial industry, many people use IoT devices to make remittance and exchange money without going bank. People calls that service mobile payment service. Furthermore, attached drive recorder to analyze driver's trend and auto calculate insurance amount in the automobile insurance industry. These examples are machine and system perform work in place of people. However, their purpose is job performance efficiency, what thought lightly of human. Additionally, that activity needs high cost to save memory by cloud server. Hence, it is very high hurdle to begin the introduction of IoT technology.

### **Design/ Methodology/ Approach:**

JTEKT think human is the most important element in production. JTEKT corporation was established as an independent company, merged with former Toyota Motor Corporation machine tool division, and Koyo Seiko Corporation (Bearing and steering company). As JTEKT is based on TPS, JTEKT sales TPS enhanced with IoT for improving functions of machine tools and mechatronics (machine & electronics). JTEKT think production's main as human and named IoT business IoE solution (Internet of Everything solution) proposes to customer. IoE solution is consisted 4step solutions. (STEP1 : Connecting solution STEP2 : Visualizing solution STEP3 : Value solution STEP4 : Chain solution) They are making the 4step solution products, and proposing to use these things and promote improving Quality control activities. For gathering machine tool's information by STEP1 product (Be able to connect many industrial telecommunications standardized PLC [Programmable logic controller], TOYOPUC-Plus) and changing effective information by STEP2(Visualize and customize Andon system for each customer, TOYOPUC -Hawkeye and able to connect many state lamps, JTEKT-SignalHop).



# Challenges of Governmental Policy Changes in Myanmar Higher Education Development

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## Abstract

### Purpose/ Research Question:

Last year, Myanmar's new Investment Law has been passed to increase international investments and support to move Myanmar economy forward. However, there are some major challenges for developing the country such as develops strong financial services sector, infrastructure sector and so on. Among them, it plays vitally important role for building a competitive higher education system which can prepare the country's young population for the challenges ahead. After over 50 years of isolation, Myanmar's higher education system was a completely failure under military rule so that it is very hard to find skilled workers in Myanmar nowadays. Recently the condition of Myanmar university education is still underfunded and poorly governed. Therefore, most of the tertiary students in Myanmar are facing complexities of the system.

In 2013, Myanmar new government tried to set a project called "Investing in the Future: Rebuilding Higher Education in Myanmar. It states that Myanmar's primary, secondary and tertiary education sector must solve the current problems of over centralization and the process of decentralization that is currently underway. Without a dramatic increase in changing higher education policy over the next several years, Myanmar human capital in all sectors will have big fallen due to very outdated management education system. To improve these sector once again, it needs immediate action from governmental actor with upgrading or changing old higher education management policy for who find themselves unskilled, under employed, or out of work. Therefore, this study attempts to point out the major challenges of governmental policy changes in Myanmar higher education development. This research asks the following question:

How can the governmental new policy overcome Myanmar poor higher education system effectively?

### Key Literature Reviews (About 3~5 papers):

Higher education policy refers to the modernization agenda for universities, principally governance, autonomy, funding, research and external quality assurance ( Pavel 2012, OECD 2003, Boer, Jongbloed, Benneworth, Westerheijden, & File 2012, Homayoun 2018, Byun 2018).



# Beijing as a Regional Innovation System: a case study of the ICT and software industries

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## Abstract

### **Purpose/ Research Question:**

Globalization has come hand-in-hand with an increased role played by some innovative regions in the global economy (Yun et al., 2015; Amin & Thrift, 1994; Asheim & Isaksen, 1997; Chaminade & Vang, 2008; Cooke, 1992, 2001, 2016, 2017). It has been increasingly acknowledged that a considerable amount of innovation activity takes place in the form of local or regional agglomerations in the past decades (Inkinen, 2015; Cooke et al. 1994).

Beijing, one of China's biggest cities, is a typical Case, its configuration has transitioned from monocentric to polycentric (Feng, Wang, & Zhou, 2009; Qin & Han, 2013; Zou, Mason, & Zhong, 2015). It is granted for creating special zone for development including industrial development zones, satellite towns and new towns.

Information and communication technology (ICT) is one of the most dynamic market sectors in China's economic boom (export. Gov, 2017).

The software industry is deemed an ideal target for a developing country to integrate into the world information and communications technology (ICT) market (Li & Gao, 2003)

**Purpose of this study:** To describe recent Beijing ICT and software clusters in Beijing

# The Effect of Innovation Capabilities on Business Performance

## : Focused on IT and Business Service Companies

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### **Abstract**

With the advent of new technologies from the Fourth Industrial revolution, the industries environment of Korea has been changing rapidly. As a result, the corporates in Korea have tried to enhance the level of their innovation activities to ensure the growth and development of their business performances and sustainability. Innovation activities which are investment on new technology adoption, technical and non-technical innovation factors and R&D activities play the critical role in the growth and development of the corporates in the varieties of industries. IT and business service industry, which is one of the most important industries in Korea, has been impacted by new technology invention, Blockchain, AI Bot, Big Data etc., so they try to adopt the new technologies as soon as possible to get the competencies to differentiate its services from other competitors, so they can survive in the rapidly changes business environment. The aim of our study empirically explores how the innovation activities have an effect on the business performance for Korea IT and business services sector of the corporates. To achieve this aim, we have examined the innovation activities and business performance of the 132 companies of large, Small and Medium companies in IT and business sector in Korea from 2009 to 2016. The study takes an empirical analysis with time series analysis on business performance from the perspective of employment rate and knowledge creation, as well as from a financial aspect and also multiple regression analysis. As analysis data, statistical data from Korea institute of patent information; Korea science and technology policy institute; Korea institute of S&T evaluation and planning; Bank of Korea; and also multiple regression analysis is applied to our study for the fundamental analysis methodology. For Time series analysis, the Box-Jenkins method, applies autoregressive integrated moving average (ARIMA) is used.



# What are the Characteristics of Entrepreneurial Business Process?

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## **Abstract**

### **Purpose/ Research Question**

: This study proposes a methodology for modeling and managing Entrepreneurial Business Process (EBP). The correlations among firm value, infrastructure, organizational structure, corporate culture, and business process management tool/system are analyzed.

Key Literature Reviews (About 3~5 papers)

: Most entrepreneurship studies have concluded that startup companies fail due to the lack of resources and the absence of network with external stakeholders. Early-phase startups face difficulty in obtaining the knowledge and information about how to systematically secure and manage insufficient resources. Systematic management of resources can be achieved by Business Process Management (BPM) proposed to improve business efficiency, that is, by specifying procedures to use the existing resources efficiently.

### **Design/ Methodology/ Approach**

: The impact of each element on business performance are explored and both are analyzed by structural equation modeling. The survey asking the business incubator members of the Korea business incubation center about key factors of entrepreneurial business process of their companies are performed.

### **(Expected) Findings/Results**

: This is the first research of analyzing relationships among business process and organizational characteristics from the perspective of startup companies considering the limitations of startup companies. Therefore, the findings indicate theoretical implications for mechanisms of the correlations with the uncovered factor and insights into the relationships among business process, organizational characteristics, and business performance.

### **Research limitations/ Implications**

: We will contribute to more effectively model entrepreneurial business process and manage factors affecting the success and growth of startups.

Keywords: Entrepreneurial Business Process, Business Process Management, Organizational Characteristics, Korea Business Incubator, Structural Equation Modeling

# Professional Competence Assessment as a Key Element of Sustainability and Risk Prevention: Case of Construction Industry

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**Purpose:** The construction industry plays a significant role in every national economy, where sustainable performance is an important precondition for growth and development. Due to the fact that the construction industry is also the most dangerous sector of economy and construction or maintenance of low quality equipment in the construction field may cause serious risks, there is a need for a professional qualification certificate stating the person's professional competence in the construction sphere. However, not always the certificate issued by a certification body of constructors confirms the person's compliance with the professional competence requirements laid down in the industry; however it protects the employee from the consequences that may result from incompetent professional performance. The scientific aim of research activities is to promote scientific discussion and in-depth research of aspects related to professional competence assessment of constructors as a key driver for sustainability in order to develop a model of achievement and measurement of professional competences in the construction field according to the main risks that can occur in the construction process.

**Key Literature Reviews:** Sustainable performance is an important precondition for growth and development [1]. Due to the fact that the need for sustainability and open innovation is getting bigger worldwide [2], and digitalization technologies are massively entering all sectors and generating new services as well as closer interaction with customers [3], construction companies are increasingly under pressure to commit to and report on the overall sustainability performances of operational initiatives [4]. At present, competence evaluation and social responsibility is the biggest challenge under the influence of globalisation processes [5]; that is why in the recent years many certification bodies of constructors have become interested in using competence-based professional requirements as a basis for certifying professionals in the construction sphere.



# An Effectiveness of Start-up Intention on Adversity Quotient and Entrepreneurship

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## **I . Introduction**

The start-up intention is also initiative a driving force for entrepreneurial activities, expressing the state of mind to start new businesses or seek new business opportunities within existing one's(Wu et al. 2008). Start-up has been planned and intentional and viewed as a process that proceeds with the passage of time (Katz & Gartner, 1988). In this process, a well-prepared plan will play an important role in successful start-up. However, if the situation develops unintentionally, it is necessary to determine the sustainability of the start-up by making a decision different from the plan. In other words, continuous management activities will be possible depending on how decisions are made to overcome the difficulties in the process of starting a business.

To overcome this difficulty in management, the energy of adversity that can overcome uncertainties plays a very important role. In other words, start-up founders who inherent in adversity ability will be a very important variable. Generally, adversity ability is regarded as the same concept as resilience. However, resilience is presupposition that's implies acquisition of process. Therefore, adversity ability should be regarded as congenital ability than resilience.

If the entrepreneur has the desire to start a business, the area, organization, and group will have resilience when there are enough potential entrepreneurs intentionally preparing to start the business. According to this importance, entrepreneurship is emerging as a major theme frequently covered in the theoretical literature on entrepreneurship(Krueger & Brazeal, 1994) and empirical studies(Scott & Twomey, 1998).

Adversity Quotient is ability to adapt to tragedy, trauma and other adversity(Bonanno, 2004).

# Let's Consume the Green to Save the Environment! – A Comparative and Critical Discursive Perspective on Green Advertisings

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## **Abstract**

As environmental concerns began to emerge, companies started to target at the growing 'green market' and launch their green products. Corporate advertisings as service industry played an important role in facilitating corporate green marketing and fuelling the desire for environmental-friendly commodities. Applying a Critical Discursive Perspective, this study focuses on the corporate environmental advertisings in order to illuminate their discursive strategies and the process that corporate green advertisings generate and symbolically structure the customer perceived value of green consumption. In addition, this study pays special attention on the constructive characteristics and constructed meanings of green advertisings collected in China market, where environmental awareness just began to rise. Research findings suggest that a collaborative ecosystem is needed to enhance the green consumption.

**Keywords:** Green advertisement; Environmental Marketing; Critical discourse analysis; China



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# Research on the Competition Strategy of Case Company Lithium Battery Safety Materials Entering International Market

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## **Research Question / Purpose**

According to the report of the International Energy Agency, the future development of new energy vehicles will be explosive. This study explores the development and current status of the international electric vehicle and lithium battery market, and whether it affects operational strategy thinking and entry mode.

The case company uses the industrial research institute lithium battery safety materials and lithium battery extreme plate production technology to have industrial competitive advantages in the industry and international market.

Whether the international electric vehicle market requirements will affect the case company's operational performance.

Literature on company resources, Local resources and international market entry strategies, and expert interviews for data analysis to assess whether it will effect case companies to enter the international market's strategy and performance.



# Sustainability and Continuous Improvement of Organization: Review of Process-Oriented Performance Indicators

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## Abstract

**Purpose/ Research Question:** Nowadays organizations are trying to have not only a competitive advantage in the market but also an advantage in sustainable development. This is not only an internal decision made by the organization's management level. More organizations are pressured by their stakeholders to report on their performance in a much wider perspective, such as triple bottom line reporting [1-3]. Many authors address the organization's sustainable performance and openness to innovation as important requirements for continuous development [4-5]. The aim of this research is to determine a group of performance-based indicators used to measure sustainability in the organization's overall performance and processes. The current research investigates how process-oriented performance indicators can help organizations be sustainable and promote continuous improvement.

**Key Literature Reviews:** There is a wide range of possibilities how organizations could measure their performance regarding sustainability. It also depends on what level of performance the organization is looking at – organizational, process or performer level [6]. The size of the organization, complicity of the organization's structure and different processes could be some of the main issues that complicate measuring organizational performance [7]. To solve this problem there have been identified organization's performance dimensions such as financial performance, customer satisfaction, employee satisfaction, social performance and environmental performance [8]. Each of those dimensions consists of a set of performance indicators that could be measured and analyzed in terms of organizational and process levels. In a different perspective, some organizations use economic indicators such as productivity regarding use of resources and creating value for the customer to measure the performance [5].

Often organizations use predefined models to measure the overall performance from different perspectives including corporate social responsibility and sustainability. It is not obligatory but many organizations use different sustainability frameworks for reporting on their performance.



# Opening the 'black box': The mechanism and effects of board power hierarchy to green governance performance—moderated by the corporate mission

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## **Abstract -Purpose/ Research Question**

Green governance is the only way to build a community of shared future for mankind. Enterprises are one of the main bodies of green governance, but existing researches concentrate more on the macro level rather than the micro level, namely, the power hierarchy of the governance subjects and its influence on decision-making as well as implementation of green governance strategy. In fact, regional economic development and corporate mission jointly restrict the green governance decision of the board of directors. Besides, power hierarchy exists in the board and affects the decision-making of the board. However, there are few literatures concerning this field. As a result, this paper explores the mechanism of the impact of board power hierarchy on green governance performance through the influence of green governance conducts under the mediating effect of corporate mission and regional economic development. To interpret this mechanism, this paper introduces situational embeddedness theory and relational contract theory and also adopts "structure-conduct-performance" paradigm and hierarchical analysis method. Overall, this paper aims to build a theoretical model of the influence of board power on green governance performance at the micro level and to guide corporates to improve green governance performance from multiple dimensions including corporate mission, board's team building, and green governance conducts.

## **Key Literature Reviews:**

Green governance can not only solve environmental problems but also improve economic performance of corporates, as a result, it plays a significant role on the sustainable development of mankind. The concept of 'The union of nature and man' of green governance advocates inclusive development of man and nature (Li, 2017a). According to 'green governance guidelines' (li, 2017b), green governance is a public affairs activity with the goal of building ecological civilization and achieving social sustainable development. And this activity is coordinated by governing body, governing methods and governing mechanism. Nowadays, green governance has become a new governance pattern of promoting environmental protection and business success (Amran et al., 2016).

# Unified Model of Sharing Economy and National Strategy

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## Abstract

### Purpose/ Research Question:

Sharing Platform Economy is rising in the 4th industrial revolution age, and already 70% of the top 10 global enterprises transformed into platform enterprises. During the first and second industrial revolutions, offline possession was the paradigm. Therefore, establishing sharing economy was insignificant, mostly existing as communities or cooperatives. The development of the Internet through the 3rd industrial revolution started the online paradigm, and online platform-based sharing economy grew up to 5% of the world economy. Moreover, in the 4th industrial revolution era, it is estimated that the O2O sharing economy, the convergence of offline and online, will reach up to 50% of the world economy by 2025. Therefore, this research aims for in-depth research of the sharing economy and proposing the combined model for the sharing economy system.

### Key Literature Reviews (About 3~5 papers):

As the sharing economy growth became visible, various definitions were born. Based on its perspective and shared objects, the name of the shared economy is in variety such as cooperatives, futures economy, shared economy, open-source, on-demand, platform business, geek economy and so on. Moreover, scholars like Elinor Ostrom, Carol Rose, Richard Matthew Stallman, Eric Raymond, and Lawrence Lessig defined sharing economy on their definitions. Ostrom explained sharing economy as "delicately designed institutional strategy where voluntary mutual observation and mutual restrictions among union members and autonomic regulations provide efficacious management of shared resources"[2]. However, definitions on sharing economy until then did not reflect the facts that sharing is limited by the limitation of resources. In reality, sharing through cooperatives still have the cost burden of sharing, and sharing is limited by the marginal utility of shared values. Later, through the 3<sup>rd</sup> industrial revolution, the internet appears, the model where the Carol Roses (1986)'s the comedy of the commons is realized [3].



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# Business Model and Open Innovation in Car Sharing Industry

## Diversity among Uber of US, DiDi Chuxing of China, and Kakao-T of Korea

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**Professor JinXi Wu** (*Tsinghua University*)

**KyungBae Park** (*Sangji University*)

**WooYoung Jung** (*DGIST*)

### Abstract

This paper discusses dynamics and differences of business models in the car sharing industry, and focuses on open innovation as the trigger of diverse business models among Uber of the U.S., DiDi Chuxing of China, and Kakao T of Korea. We seek to answer the following two questions. *What creates the differences in the business models in the car sharing industry? Do the differences in open innovation motivate the diversity of business models among Uber, DiDi Chuxing, and Kakao-T?* We incorporated participatory observation, interviews, and semi structured questionnaire methods in our study. We used two-step participatory observation and interview methods. So to say, we carried out observation and interviews two times by different researchers with Uber drivers in the U.S. DiDi-Chuxing drivers in Beijing, and Kakao-T taxi drivers in Korea to confirm the interview and participatory observation results. First, business models of the car sharing firms Uber, DiDi-Chuxing, and Kakao-T are not fixed but rather are dynamically changing. Second, business models of car sharing firms are the results of interaction with government regulations, the taxi industry, public transportation, and the automotive car industry. Third, open innovation strategies of car sharing firms determine the contents and dynamics of car sharing business models such as the revenue business model, responsibility business model, and system business model under the interaction with four agencies.

<**Keywords**>; Car Sharing Industry, Open innovation, Business model, Uber, DiDi-Chexing, KaKao-T

# Research on product design governance mechanism of sustainable transformation

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## **Abstract**

### **Purpose/ Research Question:**

There's rising attention on the topic of corporate governance for sustainable development. Though existent studies are found in the areas of sustainable product development significance, drivers, definition, successful factors, many aspects still remain exploratory including that how sustainability can be better adopted from the perspective of product early life cycle such as product design. This paper aims to illustrate key governance mechanism for sustainable product design covering three main aspects which are i) sustainable governance maturity levels on grounds of related theories; ii) corporate governance model for sustainability in line with "motivation-process-result" logic and iii) characteristics identification and refinement after sustainable transformation.

In order to answer the research questions, a conceptual framework is proposed based on value creation system, and this study adopts an exploratory in-depth case study to clarify sustainable governance process by suggesting a new kind of value creation. We discuss how new value can be created in product design process which enables the positive corporate sustainable transformation for Chinese enterprises encountering strong enforcement of environmental law and policy. The findings also discuss the practice and key drivers of green and sustainable corporate governance in China.



# Self-organizing Smart city 4.0 model based on urban evolution

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## Abstract

### **Purpose/ Research Question**

Today, more than 60% of the world population and more than 80% of the Korean population live in cities. Urbanization increases city-provided convenience and advantages, but also transportation, environment, crime problems simultaneously. Therefore, the purpose of the Smart City was to decrease the city's expenses by solving the problems and increasing the quality of life. However, with the city's platformation through the 4<sup>th</sup> industrial revolution technology, it is estimated that the advantages will overcome the expenses. Moreover, smart cities are self-organizing by transforming from the standard infrastructure-centric to data and citizen-centric. Presently, as city is the subject of creation not consumption, the smart city is the key industry of creating more than 60% of the GDP, in the value creation of smart cities as main actor of production viewpoint.

### **Key Literature Reviews (About 3~5 papers)**

As the rapid technological developments such as platforms and AI combined with China and India's urban development demand from 2010, led to the rapid increase of Smart Cities and the appearance of its Evolution Model.

In 2013, IDC introduced the Smart City Maturity Model. Based on the elements of strategy, culture, process, technology and data, the five levels are Ad Hoc, Opportunistic, Repeatable, Managed, and the Optimized. As the city continues to evolve, it requires more time, resources and effort continuously. However, the smart cities of 2013, the growth of culture and process is slow, which IDC figures the maturity level as between the Opportunistic and Repeatable.

Cohen, studying smart cities from 2011, proposed a three-level process about how cities should accept technology and development, and how the government should lead its citizens [8]. The Technology Driven Smart City 1.0, where engineers provide solutions, understanding towards its effect on the citizens' quality of life was insufficient. In the Technology Enabled and City-Led Smart City 2.0, smart technologies and innovative placement as the future vision were led by the administrators, mainly focusing on technical solutions on improving quality of life.

## Collective intelligence; emerging world in open innovation

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**Abstracts:** Responding to the lack of empirical research on the effect of collective intelligence on open innovation in the 4<sup>th</sup> industrial revolution, we examine the relation between collective intelligence and open innovation. Collective intelligence or crowd innovation will not only produce creative ideas or inventions, but also moderate any firm to innovate inside-out, outside-in, or in a coupled manner. We set up the following research questions. *Does collective intelligence (or crowd innovation) motivate open innovation? Is there any difference in the effect of collective intelligence on open innovation by industry?* These research questions lead to the following three hypotheses: 1) Collective intelligence increases the performance of a firm; 2) Collective intelligence will moderate the effect of open innovation; and 3) There will be differences between the automotive industry and the pharmaceutical industry in these 2 effects. In order to examine these three hypotheses empirically, we analyzed registered patents of these two industries from 2000 to 2014 for a 15-year period. These automotive and pharmaceutical patents were registered at the B60 category and the A61K category of the Korea Patent office, respectively. Collective intelligence is measured by co-invention. We find that there were differences in the effects of collective intelligence on open innovation between the two industries. In the automotive industry, collective intelligence not only increased the performance directly but also moderated the open innovation effect indirectly. But that was not the case in the pharmaceutical industry.

**Keywords:** Collective Intelligence, Open Innovation, Moderating Effect, Automotive Industry, Pharmaceutical Industry.



# Regional innovation by new type leapfrogging

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## Abstract

### **Purpose/ Research Question:**

Japan Policy Council which was founded by Japan Productivity Center as a private meeting committee structure indicated that the disappearance possibility of 896 municipalities were expected caused by the depopulation with the declining birth rate in Japan. Is the viewpoint that Japanese local district is unidirectionally declining correct? This is the core question in this study. We are performing the study on the local community in Mie prefecture, Japan, during over 10 years. According to our research, we reached the point of view that "the extinction possibility of the local government" and "the drop of the vitality in region" do not have correlation. In Mie prefecture, there is a North-South economic gap to be caused by the long terrain from north to south. The northern part of Mie prefecture is mainly based on secondary industry and the southern part is based on primary industry. The population is biased toward the north. The citizen income per person is more than twice in the northern part compare to the southern part. Rapid depopulation and aging are progressing in the southern part of Mie prefecture. The possibility that the southern municipality will disappear is felt strong. On the other hand, carefully looking at the southern part of Mie prefecture, it has been confirmed that there is a business model that is conducting a strong business even if an old company in the area.

### **Key Literature Reviews (About 3~5 papers):**

1. Papers showing the actual situation by leapfrog type economic development<sup>1</sup>.
2. Papers showing the actual situation on the growth and steady process of the Japanese economy<sup>2</sup>.
3. Papers showing economic situation and social real situation in rural areas in Japan<sup>3</sup>.
4. Papers showing the actual situation regarding social sustainability and open innovation<sup>4,5</sup>.

### **Design/ Methodology/ Approach:**

In this study, we carefully analyze the spontaneous events observed in local areas where the disparity from urban areas reached a marked level in a society (nation) that shifts from economic growth to maturity. Specifically, we examine some cases, such as Asai nursery and Ebiya, in the southern part of Mie prefecture where the author was involved.



## The necessity of esthetic education to improve the elderly happiness index of Korea

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### **Abstract -Purpose/ Research Question:**

Well-being and emotionalism are emerging as new trends in an advanced society demanding dynamic changes. Hence, people are interested in physical and mental health, and the demands for beauty are also diversifying. Beauty services are provided satisfaction and happiness at the same time pursuing human instinctive beauty. Especially, skin care service not only changes the appearance but also enhances self-esteem, self-efficacy and stimulation of physical contacts to improve psychological well-being.

Meanwhile The aging phenomenon is progressing very rapidly all over the world. In particular, Korea has entered an aged society in only 17 years, and it is in the process of aging at the fastest pace in the world. Especially, as of 2017, Korea's aging index that the proportion of people aged 65 or over compared to the population aged 10-14, was also 107.3. It was the highest in the world. According to OECD statistics, Korea has the highest rate of suicide among elderly people. Elderly suicide is caused by despair, loss, helplessness, and depression. Although there are social welfare programs such as art therapy, music therapy, and laughter therapy to solve the psychological difficulties faced by the elderly, most Korean welfare is still limited to solving economic difficulties. So, it is required to develop a new welfare program that satisfies both emotion and sensibility have. It is one of good alternative to create the skin care program for the elderly and to educate the esthetician to practice it.

Currently, the skin care education program does not have a detailed education aimed at a specific floor but only a general education program for the human body is operated.



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# A Study on the Impact of the Government's Balanced Development Policy on Regional Competitiveness: Focusing on Manufacturing Industry

**Maeng, Cheol-Kyu**

*Professor, Daejin University, Korea*

**In-Jong Lim**

*Senior Researcher, Ph.D, Korea Electronic Technology Institute, Korea*

## **Abstract**

For the past 20 years, the Korean government has been pursuing the policy of regional transfer of public institutions and companies concentrated in Seoul and the metropolitan area in order to achieve balanced regional development. This measure by the government is based on Michael Porter's Diamond Theory. This study analyzed the current status and changes of the relative competitiveness of the manufacturing sector by using time horizon, which is able to show the characteristics of each region during the 20 years of government policy. A multiple regression analysis model is used to examine whether or not the change in the regional competitiveness of the manufacturing enterprises was analyzed.

## **Purpose/ Research Question:**

In the course of the decades-long promotion of balanced national development under the leadership of the government, the Republic of Korea has reviewed the current status of major competitive industries that can demonstrate regional characteristics and to investigate whether or not they have obtained them.

## **Design/ Methodology/ Approach:**

In this study, monthly and yearly data is used which is based on the survey of mining and construction industry from 2006 to 2016 and it is whole-scale survey conducted for Korean companies. The companies were divided into 23 categories with the middle class level, but excluding the tobacco industry which does not have meaningfulness, 22 categories were analyzed. Sejong City was added to the existing 17 provinces by region, but it was deleted by taking into consideration that the its statistics are insignificant and time series analysis is impossible.

# Evaluating determinant Priority of licensing deal in bio-pharmaceutical industry

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**Kwang soo Shin**

*Prof., Graduate School of Health Science Business Convergence, College of Medicine, Chungbuk National University, Republic of Korea*

## **Abstract**

### **Purpose/ Research Question:**

This study aims to analyze and propose the priorities of factors that are relatively more important among the necessary factors for technology transfer and commercialization, which are increasing worldwide, through AHP.

### **Key Literature Reviews**

Ku et al (2015) conducted analysis of importance and descriptive statistical analysis using factorial AHP (Analytic Hierarchy Process) for the factors that should be considered for revitalizing technology transfer and commercialization. The results of this study are as follows: Firstly, the ranking of average value through prioritization and descriptive statistics through AHP analysis was found to be a major factor. In order to activate technology transfer and commercialization, And the support for improvement and improvement of the technology that can be found is the most important factor. Next, it was found that the role of the technology transfer organization that plays a role as the core subject is recognized to be important for supporting and utilizing these technologies more effectively. In addition, it is analyzed that TLOs that have secured the establishment of technology rights system, independence and expertise are considered to have a relatively high importance in the subordinate items belonging to the second hierarchical factor. On the other hand, the relative importance of technology finance, which provides economic support environment related to technology commercialization, is considered to be low



# A Study on the Factors Influencing Public Technology-based Start-ups

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**Jeonghwan Lee**

*Professor, Department of International Business and Trade, Myongji University, Korea*

**Maeng, Cheol-Kyu**

*Professor, Daejin University, Korea*

## Abstract

Technology-based start-ups are contribute to the growth of economy by creating high quality jobs, increasing R&D investment, exporting goods and services, etc.

Especially, public technology-based start-ups established by using the outcome of government-sponsored R&D projects are over 80 percent and the duration of company operation is long.

The research hypothesis on the factors affecting the public based start-ups. As a result, it was found that education program and cooperation have a positive effect on the public technology-based start-ups.

This study provides following measures to promote public technology-based startups.

First, share competency-based information and expand a cooperative network with outside organization. Second, encourage to sign business agreements with between various companies and provide guidelines. Third, operate a consultation body for periodic exchanges related to start-ups. Finally, created and expand public technology-based start-ups support projects that can participate in public institutes and specialized organizations jointly.

## Purpose/ Research Question:

If the founder of public based start-ups is a researcher who R&D the technology, it will be easy to cause product and process innovation through development of new application technology, and it will maximize the positive effect of the start-up as much as time to market do.

However, researchers hesitated to challenge to start a new business in reality due to a high opportunity cost as they have to take a risk of failure that is huge compared to the benefits of working at a company including high wages, job security, and others (Korea Institute of Startup & Entrepreneurship Development, 2017).

# Is the Groupthink Really inevitable fiasco?: based on the self-organized perspective

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**Junseok Hwang**

*Position (Ex. Prof. Researcher, Ph.D, Master, CEO, and etc.), Affiliation (Ex. University, Institute, Company),*

*Nationality*

## **Abstract**

Groupthink has been considered as an organizational fiasco inducing the defective decision makings. Irving Janis suggested the first linear model explain concurrence seeking without sufficient review toward the alternatives. The argument that the groupthink brings the failure in group decision making came from these direct causalities of Janis' groupthink model. However, despite of supportive cases, Janis' groupthink model was not persuasive enough. Thus, the dynamic perspective of groupthink was propounded as an alternative aspect. The present study suggested a dynamic aspect which is based on the self-organization perspective to replace the existing framework. We conducted two analyses to test Janis' model and understand the dynamics of groupthink. The first analysis used a structural equation model. The result of SEM analysis showed that although the antecedents of groupthink are likely to trigger the groupthink, there was no evidence to explain the relationship between the groupthink and the quality of decision making. The second analysis assumed the groupthink phenomenon as a result of a complex adaptive system. Agent-based model simulations were conducted, and we found that the groupthink can contribute to the enhancement of organizational performance. Furthermore, in the situation where there is no external disturbance, the cohesiveness plays a similar role to the organizational collaboration. Consequently, this research can contribute to building a new point of view toward the groupthink. We suggested several ways how to deal with the concurrence seeking behavior of an organization on the knowledge and organization management perspective.



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# What Determines Organizational Innovation in Public Sector?

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**Sang Ok Choi(Corr.)**

*Prof., Korea University, Korea*

## **Abstract**

Along with the growing interest in organizational innovation, a variety of studies have been conducted. Innovation is one of the key factors that determine the survival of an organization under the rapidly changing environment. Typically, an organization as an organism attempts new, internally innovative changes to hedge against potential threats from external environments, and success of such changes determines the survival of the organization. As for the importance of innovation for practitioners, research on innovation has been conducted(Burns & Stalker, 1961; Hage & Aiken, 1970).

The study of organizational innovation has a multidisciplinary approach, characterized by different approaches to academic discipline. While psychology focuses on the elite, the characteristics of the organization's member, and group or organizational conditions that stimulate innovation, economics is concerned with the impact of variables such as organizational size, market competition, internal and external resources and innovation on productivity and performance. In addition, technology field focuses primarily on the production process and the impact of new technologies on existing technologies, and sociologists are interested in the organizational characteristics associated with accommodating innovation (Gopalakrishnan & Damanpour, 1997).

However, research into organizational innovation in the public sector remains a minority despite its need. The purpose of this study is to explore the determinants of organizational innovation in the public sector.

**Research Question:** To explore what determines organizational innovation in public sector

# The transitional analysis of the open Innovation business model of the Japanese automobile industry

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## Abstract

### **Purpose/ Research Question:**

The purpose of the paper is to examine the stages of innovation in the Japanese automotive industry and illustrate the changing process from closed innovation to open innovation processes. The automotive industry in Japan had been playing an important role for innovation in the Japanese industrial development history (Jeong and Ko 2016). Several Japanese innovators after the WWII started innovative roles for starting and developing the Japanese automobile industry and succeeded.

The research question of the paper is to examine (1) What made the Japanese automobile makers to shift from the closed innovation style to open innovation? (2) When was the shift progressed? What was the background for the shift? Are there any relations with the Japanese economic development and the role of Japan in the global economy?

The structure of the paper is, first examine literature reviews of the study. Then the following chapter examines the 4 periodical zones of economics development and the open and closed innovation in the automobile industries. The third part of the paper shows the case study of the open innovation in the Japanese automobile makers. The final part concludes the shift timing and the background.

### **Key Literature Reviews:**

An organization which is good at accumulative learning and derives its innovative capabilities from the development of organization-specific collective competences and problem-solving routines (Aoki 1988, Nonaka and Takeuchi 1995). Specifically, long-term collaboration of the Japanese social institutions and employment practices foster the close involvement of shop-floor workers in the development of organizational capability. Well organized training and job rotation schemes, tight linkages between R&D, production and marketing developed various learning patterns and innovative capabilities.

New organizational models and concepts designed to support organizational learning and innovation. Various learning patterns and innovative capabilities has been studied over years.



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# The study on the effect of patent retrieval behavior on market awareness of teachers in the technical and vocational colleges and universities

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## **Abstract**

### **Purpose/ Research Question:**

With the Bayh–Dole Act of 1980 by the United States Congress, Taiwan also formulated the "Fundamental Science and Technology Act" in 1999. The purpose of above program was to promote the academic commercialization of the university, thus encouraging university scientists to patent and license their innovation.

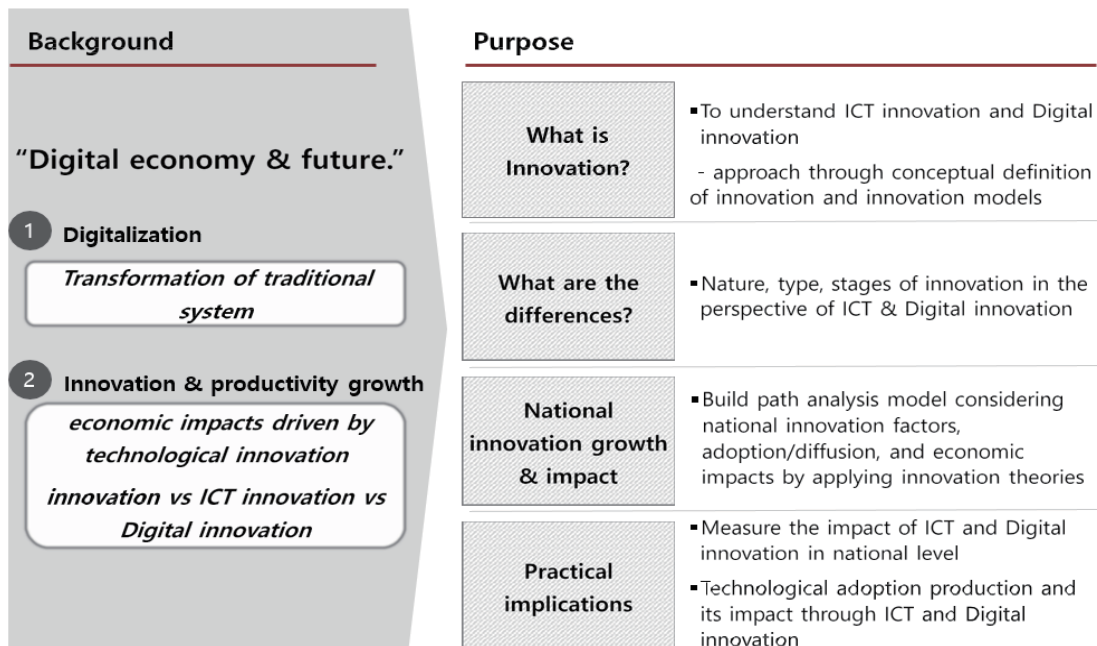
The study takes an information search behavior's perspective and applies the theory of information search behavior as well as knowledge management to explore patent retrieval behavior, and the factors influence professors or researchers in the technical and vocational colleges and universities patent retrieval behavior. However, although improving market awareness enables teachers in the technical and vocational colleges and universities quickly identify opportunities in the market, developing new technology in order to meet the need of market is crucial. Therefore, the purpose of this study is to explore the correlation between teachers in the technical and vocational colleges and universities that patent retrieval behavior and market awareness capabilities.



# Digitalization and national innovation growth analysis

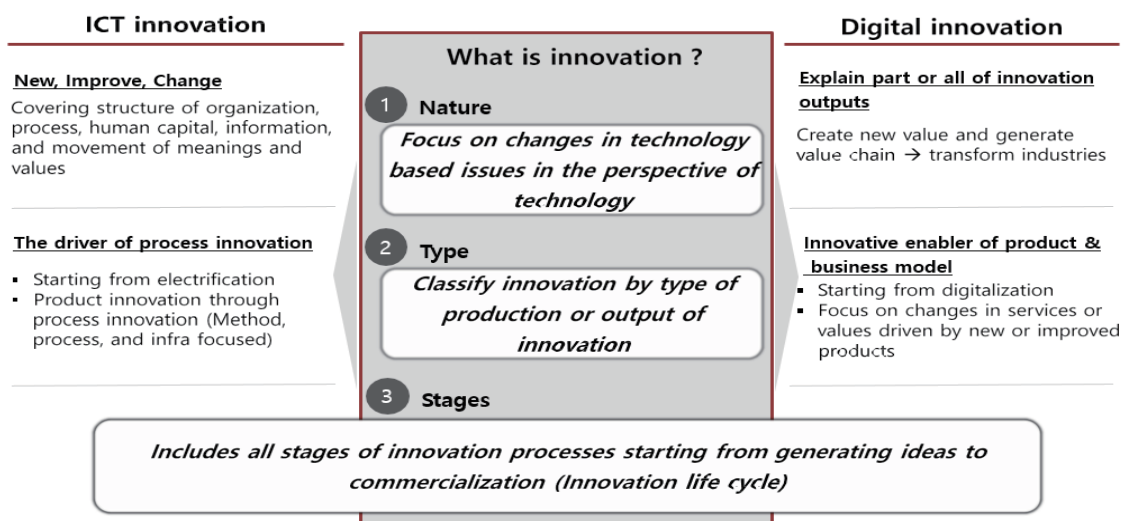
HyunJee Park, PhD Candidate  
Prof. Sang Ok, Choi\*

## Purpose



## Definition – Innovation, ICT & Digital Innovation

The importance of innovation raises significant policy and strategic issues since it produces values and creates sustainable competitiveness (Bareghen et al., 2009)



# Impact of Social Robots on Society and Economy in Japan

**Sergei SHAPOSHNIKOV**

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Roots of Japanese robotics come from post-Second World War period when government decided to settle the country's economy and embarked on the path of «peaceful» growth. Development of new technologies and potential of «know-how» was actively used for the solution of acute problems. Having concentrated all efforts on the modernization of high-tech areas, Japan has embarked on the path of becoming a leader in robotics, science, engineering, and along with this began actively develop new technologies.

Japanese technological companies develop new types of robots that are able to interact with human on a social level. The result of the developments in this industry was the creation of social robots and the emergence of a new interdisciplinary area as «social robotics». Nowadays in Japan social robots occupy an important position in social and economic life.

Today Japan has difficult situation with aging of population and low level of labor productivity, at the same time Japan possess the largest stock of robots in operation in the field of production and service, hence, Japanese government set a plan to increase the usage of social robots in non-production sector.

Japan as a country of advanced technologies is already on its way to active introduction of social robotics into different spheres of human's life, however, it remains unexplored the question of social and economic impact.

**Research question:** The aim of research is to identify the role of social robots within Japanese society and understand the attitude of Japanese people toward social robots, and consider the place of social robots in economy. Also the paper aims to evaluate of the impact of social robots on economic situation in Japan.

**Literature reviews:** main sources include official documents of Government of Japan or government related organizations, results of researchers' experiments and results of survey. Main documents analyzed in research are: «Innovation 25 Strategy Council» (2007) by Government of Japan and Council for Science and Technology Policy, «Science and Technology Basic Law» (1995, updated every 5 year) by Government of Japan; Ministry of Economy, Trade and Industry of Japan- «New Japan's Robotic Strategy» (2015). Also the papers of following researchers were used- Mead R., Atrash A., Mataric M. J. (2011); C. Breazeal (2002); Min Kyung Lee, Sara Kiesler, Jodi Forlizzi (2010), Yun (2015), Kodama (2018), Kodama & Shibata (2017) etc..

**Methodology:** main methods used in this study include historical analysis, document analysis, descriptive method, comparative analysis, mixed qualitative and quantitative research method. Quantitative and qualitative analysis will take the significant part of the research in order to understand the reception of social robots within Japanese society.

**Finding/ results:** The growing popularity of social robots in Japan has quite strong social grounds and economic potential.

# A Strategic Architecture of Sustainable System Development Education for Industry, Innovation, and Global Value Creation with SDGs

**Min-Ren Yan**

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## **Abstract**

UNESCO has been promoting Education for Sustainable Development (ESD) since 1992. It led the UN Decade for ESD from 2005 to 2014 and is now spearheading its follow-up, the Global Action Programme (GAP) on ESD. The momentum for ESD has never been stronger. Global issues – such as climate change – urgently require a shift in our lifestyles and a transformation of the way we think and act. To achieve this change, we need new skills, values and attitudes that lead to more sustainable societies. Education systems must respond to this pressing need by defining relevant learning objectives and learning contents, introducing pedagogies that empower learners, and urging their institutions to include sustainability principles in their management structures.

Embarking on the path of sustainable development will require a profound transformation of how we think and act. To create a more sustainable world and to engage with sustainability-related issues as described in the SDGs, individuals must become sustainability change-makers. They require the knowledge, skills, values and attitudes that empower them to contribute to sustainable development.

Education, therefore, is crucial for the achievement of sustainable development. However, not all kinds of education support sustainable development. Education that promotes economic growth alone may well also lead to an increase in unsustainable consumption patterns. The now well-established approach of Education for Sustainable Development (ESD) empowers learners to take informed decisions and responsible actions for environmental integrity, economic viability and a just society for present and future generations.

ESD aims at developing competencies that empower individuals to reflect on their own actions, taking into account their current and future social, cultural, economic and environmental impacts, from a local and a global perspective. Individuals should also be empowered to act in complex situations in a sustainable manner, which may require them to strike out in new directions; and to participate in socio-political processes, moving their societies towards sustainable development.



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# Analysis on Topic Trends of Open Innovation using Topic Modeling

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**Dae-cheol Kim(Corr.)**

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## **Abstract**

Recently, due to environmental change such as expansion of knowledge base, acceleration of technology, and shortening of product life cycle, the phenomenon of cooperating with outside in technological innovation process is expanding in order to increase the productivity of R&D. The purpose of this study is to investigate research trends of 'open innovation' using topic modeling and network analysis and to suggest implications for establishing future research direction. For this analysis, we gathered the Abstracts from about 3,800 articles in Google Scholar from 2003, when the concept of 'open innovation' was first announced, to Oct 2018. The topic modeling and network analysis were conducted for these articles. The topic modeling analysis resulted in 10 topics including 'Knowledge Management', 'Open Innovation Processes', 'Intellectual Property', 'Open Innovation Strategy', 'Culture', 'Business Model', 'Supply Chain', and 'Sustainability'. In order to examine the results of the topic modeling more deeply, we performed the network analysis for 8 topics. Through this study, we sought to derive the relationship between topics of open innovation, and to suggest implications for establishing future research direction.

**Purpose/ Research Question:** The purpose of this study is to investigate research trends of 'open innovation' using topic modeling and network analysis and to suggest implications for establishing future research direction.

# Integration of Kano's Model into QFD for Product Design

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**Choonjong Kwak (Corr.)**

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## **Abstract**

It is very important to incorporate customer requirements into product design in today's competitive markets. Quality Function Deployment (QFD) is a well-known method for product design based on customer needs. QFD, however, has a limitation in understanding customer needs accurately. Kano's model, on the other hand, provides a systematic way of categorizing customer requirements. This research proposes a new framework for integrating Kano's model into QFD for product design. First, customer requirements are quantified and categorized by Kano's model. Then, the quantitative results of Kano's model are integrated into QFD. This research presents an illustrative example for car interior design to demonstrate the effectiveness of the proposed approach.

**Keywords:** Quality Function Deployment (QFD), Kano's model, Customer needs, Car interior design

# Study on the business model of post-natal nursing institutions in Taiwan and China

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**Pei-ling Liu (Corresponding author)**

*Graduate Institute of International Business Administration College of Business, Chinese Culture University Taiwan*

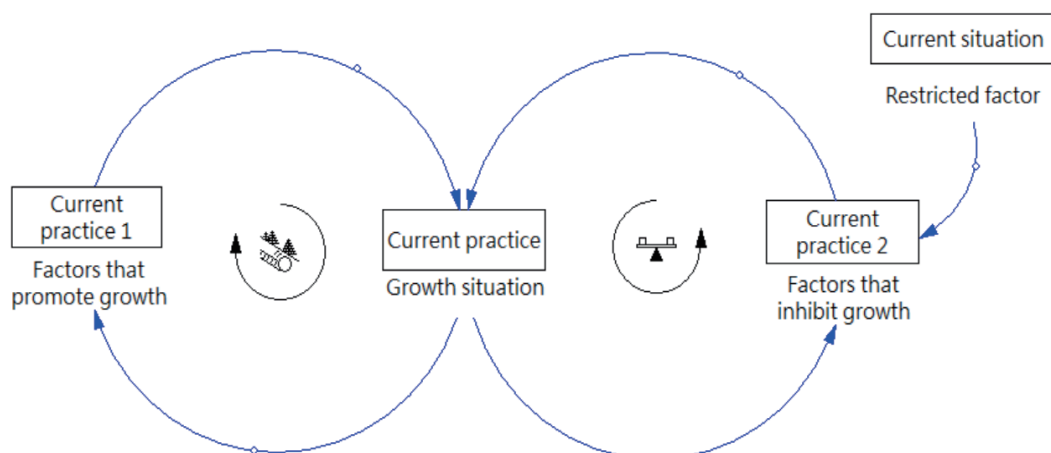
## Abstract Purpose/ Research Question:

From the perspective of management, it is necessary to develop the business model of high-end postpartum care institutions to meet the current market demand and at the same time conform to the operating benefits, so as to achieve sustainable development of the institutions. Investigation on business operation mode of high-end postpartum care institutions across the Taiwan straits.

Use the Business Model Canvas to present the Business operation mode of postpartum care institutions.

How to form a sustainable positive feedback loop is discussed by using the theory of system thinking and the concept of positive feedback loop of system base mode.

## Reinforcing Feedback / Balancing Feedback



# The construction of the AI model of medical beauty tourism marketing - from the perspective of brand

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## **Abstract**

### **Purpose / Research Question:**

Medical beauty tourism is both an emerging industry and a popular travel trend in development. It is believed that the integration of medical beauty sector and tourism industry of Taiwan would have quite a significant economic impact on the markets across the globe. The research is to study the effects on the development of applications, innovations and the dynamics of the incorporation of online platforms into integrated medical beauty tourism industry and questions of promoting sales; applying artificial intelligence and virtual reality to the products of growing e-commerce platforms, the improvement of user experience given much easier access to product information and well-designed user guidance to boost sales and consolidate the ties of strength between industries based on the theoretical constructs. The research also explores the business models of medical beauty industry.

### **Key Literature Reviews:**

Lee, M. H., Yun, J. H. J., Pyka, A., Won, D. K., Kodama, F., Schiuma, G., Park, H. S., Jeon, J., Park, K. B., Jung, K. H., Yan, M. R., Lee, S. Y., and Zhao, X. (2018) How to Respond to the Fourth Industrial Revolution, or the Second Information Technology Revolution? Dynamic New Combinations between Technology, Market, and Society through Open Innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 4(3), 21.

Park, S. K., and Choi, S. Y. (2018). Sustainable Production Scheduling in Open Innovation Perspective under the Fourth Industrial Revolution. *Journal of Open Innovation: Technology, Market, and Complexity*, 4(4), 42.



# A Virtuous Circle Job Model of 4<sup>th</sup> Industrial Revolution

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**Minhwa, Lee(Corr.)**

*Prof., KAIST(Korea Advanced Institute of Science and Technology), Republic of Korea*

## **Abstract**

### **Purpose/ Research Question**

Jobs are continuously evolving through the coevolution of technology and needs by changing its form only through the Creative Destruction Process, the process where the circulation between creation and extinction continuously takes place. However, the precedent researches on the creative destruction process of jobs up to the present date are insufficient on the research perspectives. Therefore, this research proposes that the jobs are deceased and created through the coevolution between the technology and the human's needs, by the theory of Maslow's hierarchy of needs. As the job paradox takes place during the creative destruction process of the jobs, the research proposes the three safety nets, the safety net of Innovation + the safety net of Jobs + the safety net of Society, as an alternative policy for the government to take into action. Also, the research proposes the virtuous circulation job model that goes through the double ring circulation as a solution to the dilemma of the circulation between the growth and welfare, the issue which the market economy has failed to solve for more than 250 years.

### **Key Literature Reviews (About 3~5 papers)**

Until today, the analysis of the transformation of jobs during the age of the 4<sup>th</sup> industrial revolution was mainly focusing on the context of the dissolution of existing labor positions and the creation of new jobs. One of the perspectives on the relationship between jobs and technological innovation through the 4<sup>th</sup> industrial revolution is that innovation will reduce the number of jobs for human workers. For instance, Frey & Osborne announced in 2013, that about 47% of the people of the United States of America would lose their jobs within 20 years from now [8]. Similarly, in 2016, the World Economic Forum reported that within five years, the innovative revolution would create 2.1 million new jobs worldwide, while 7.19 million people around the globe will lose their jobs at the same time. As a result, about 5 million people will lose their jobs throughout the world.



## Exploring innovation ecosystem from the perspective of sustainability: Towards a conceptual framework (extended Abstract)

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**Keywords:** *Sustainable innovation, innovation ecosystem, sustainability, innovation*

### **Purpose/ Research Question:**

Business success is increasingly dependent upon innovation and sustainability. Innovation is related with knowledge creation and sharing activities within and between organizations. It features explorations and introductions of new products, new methods of production, new markets, new sources of supply, and new industry organizations (Schumpeter, 1934). The Internet of Things, big data, 3-D printing, and other advanced technologies of the Fourth Industrial Revolution, increasingly reflect and enable the development of a sharing economy with features of creativity, participation of small firms, and society involvement (Park, 2017). At the same time, social and environmental impacts of production and economic activities are becoming increasingly important as companies are now considering sustainable features in their product innovation, process technology and supply chain. Through such approaches as reducing energy consumption, investing on recycling and engaging in community activities, companies' brand and image can better recognized by customers, which in return brings profit to the company in a sustainable way. Sustainability is often addressed through the triple bottom line (TBL) framework, meaning economic (financial), environmental (ecological), and social aspects (Elkington, 1994).

In a proactive way, considerations of these dimensions can be linked to new product and process design, enabling firms to respond to new sustainability pressures and challenges, while also taking advantage of attendant opportunities. Externally, supply management, ethical sourcing, and close customer relationship development can also generate innovation with impacts (and benefits) for both the institution and the wider community. Firms such as Boeing, Airbus, and Apple already conduct practices of innovation through an open system approach which combines knowledge resources of upstream and downstream organizations in their supply chain (Zeng, et al., 2017).



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# Opportunities presented by crisis : the upgrading of CHINA photovoltaic

Jin Jun

## Abstract

Chinese PV firms were adversely affected by international trade conflicts, including anti-dumping and anti-subsidy, and the loss of policy preference. The development of China's photovoltaic industry has become a problem that cannot be ignored. Meanwhile, how to realize the goal of upgrading and catch up through internationalization is a strategic problem faced by many manufacturers in emerging countries. This paper examines what resources a firm needs and which approach a firm should take when upgrading along the global value chain based on an in-depth analysis of Company S. Research on the internationalization of Company S indicates that due to the firm's internal market, vertical diversity along the global value chain could be viewed as an international upgrading process. The case suggests that complementary capabilities and markets are the fundamental basis for upgrading. In addition, the internal market mechanism makes it possible to sustain the upgrading process without conflicts between subsidiaries. Moreover, synergies will develop through interactions with subsidiaries owing to complementary capabilities and the internal market. This study additionally provides suggestions regarding upgrading along the global value chain for multinational companies from emerging countries and contributions in aspect of internationalization strategy of SMEs from emerging economies and internationalization for upgrading along the global value chain

**Keywords:** Photovoltaic, upgrading, internationalization, global value chain, China.

## The 4<sup>th</sup> Industrial revolution and Smart transformation

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**Minhwa Lee(Corr.)**

*Prof., KAIST(Korea Advanced Institute of Science and Technology), Republic of Korea*

### Abstract

The 4<sup>th</sup> industrial revolution is the revolution where the off-line world and the online world are converging into the data. Therefore, this research intends to propose the fusion process of the real world and the virtual world through artificial intelligence along with other 12 technologies, or the AI+12 technologies, through the 4-Step Phase Smart Transformation Model. The 12 technologies of the AI+12 technologies are Internet of Things, Location Based Services, the Cloud platform, Big Data, Internet of Biometrics (or Wearable Internet), Social Network Services, Cyber-Physical System, 3D Printing+Robots, Augmented Reality + Virtual Reality, Blockchain + FinTech, Gamification and the Platform technology. The AI+12 technologies, which realizes the smart transformation, is consisted of the six digital transformation technologies which transform the reality to virtualization, and the six analog transformation technologies which realize the virtual world, and with the artificial intelligence that connects all 12 technologies. This research proposes to call the technical model as the AI+12Tech Model.

The convergence of the real world and the virtual world through 13 technologies(AI and Twelve Technology) go through the four-step phases. The first step is making the data of space and humankind through the Internet of Things, Location Based Services, Internet of Biometrics, and the Social Network Services. The second level is establishing the big data through the cloud platform, and producing the digital twin, which correspondences with the reality on one on one. The third step is creating the optimized value by prediction and customization through the artificial intelligence on the base of the big data. These three step is called digital transformation by moving reality to the virtual world. Moreover, in the fourth phase, actualized the human's desire and needs by realizing the values created on the 3<sup>rd</sup> level. *In this study, the process of making a virtual reality is defined as an analog transform. And a smart transform is combined digital transform and analog transform*



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# Analysis of the Private Sector Development of Vietnam in Innovative Capability through Human Resource Development

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## **Abstract**

Vietnam is an emerging and transforming economy. Although the growth rate is quite impressive, compared to other developing economies in the region, Vietnam's economy is still lagging behind, according to the WEF assessment in the period of 2001-2015. To promote the development economy, Vietnam needs breakthrough steps.

The private sector is considered to be a driving force of the economy because of its potential development. However, the contribution of private enterprises to the development of the economy is still very limited. In order to create a breakthrough growth for the economy, the private sector, especially private enterprises, needs appropriate approaches. This study focuses on introducing some research results on the private business sector in Vietnam and suggests some suggestions on a strategic approach to enable this region.

This discussion concentrates on how to help the best group of the private sector in VN to develop their innovative capability through HRD to meet with the international level.

## Determinants of Innovation in the IoT SMEs

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**DaeSoo Kim**

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**Sun Young Park(corr.)**

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### **Abstract**

#### **Purpose**

A significant role of IoT (The Internet of Things) in the Industrie 4.0 platform  
Little is known about the innovation attributes of SMEs (small and medium-sized enterprises)  
in the IoT industry.

This study aims to find out the determinants of innovation in IoT SMEs in South Korea.

#### **Background:**

IoT as a keyword of Industrie 4.0: The significant role of the IoT industry as a core infrastructure  
in Industrie 4.0

The need to comprehend IoT attributes in the viewpoint of industry innovation: A significant  
gap between the ideal policy and the practical realization on industrial sectors

The demands for guiding determinants about innovative IoT SMEs in Korea: The attributes  
and patterns of innovation in IoT SMEs will be helpful for many SMEs which attempt to secure  
competitive advantage for sustainable growth regardless of turbulent and rapidly changing  
world.

#### **Main concept of this study**

Do successful IoT SMEs follow certain patterns of innovation? - The IoT SMEs that achieved  
innovative performance might have some specific pathways or patterns to success.



# Samsung Electronics' transition in M&A strategy and its implication through Harman International cases

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## Abstract

Harsh competition fosters enterprise niche and competitive advantages through strategic management. With ability of organizational ambidexterity, it further develops into enterprise evolution of innovative eco system by conducting successful cross-border M&A ( Ling ding, Di cao, Taohua Ouyang, Jin-xi Wu, 2018).

Technology companies such as Apple, Samsung, Amazon and Google tend to bet big on the Auto market these days. According to these companies, software and electronics are playing an increasing role in the automobile industry, with automotive electronics estimated to account for upwards of 30% of a modern vehicle's cost (Trefis Team, 2016). Conversely, car manufacturers are also entering into partnership with IT companies in the full awareness that they cannot manage the massive task of digitization alone.

R&D backed up and oriented firms get uncertain challenges when they ran their businesses in unforeseeable circumstances. These R&D intensified firms face both product innovation challenges and diminishing product life cycles. The own way of survival is adapting durable sustainable capabilities and diversify themselves in order to maintain cycles for technological and development capabilities (Shantanu Dutta, Vinod Kumar, 2009). Especially, the market for automotive electronics is expected to grow to over \$100 billion by 2025, according to Samsung.

# HOW DO MOBILITY DIRECTION AND HUMAN ASSETS OF MOBILE ENGINEERS AFFECT JOINT KNOWLEDGE CREATION AFTER M&As?

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## ABSTRACT

We focused on mobile engineers, a unique employee group that may have significant different reactions to M&As. Mobile engineers, previously recognized as an undesirable loss by most knowledge-intensive organizations, may return to their former organizations as effective knowledge creators when their previous and new organizations unite through M&As. We examined how these unique mobile engineers collaborate with remaining engineers at their previous workplaces to jointly create knowledge after an M&A. We specifically investigated how their mobility direction, relational assets, and intellectual assets affect the amount of knowledge that is jointly created through inter-personal collaborations following the M&A. Using the data of 410 mobile engineers in high-technology M&As during 2000–2004, we found that the mobility direction from acquiring firms to targets prior to M&A has a positive impact on joint knowledge creation. We also found that such mobility direction positively moderates the relationship between human assets of mobile engineers and their joint knowledge creation.



# Effect of student activity participation on accounting learning

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## Abstract

This study investigates whether active participation of students in class activities has positive effects on accounting learning. Specifically, it tests whether active student involvement in board game activities in introductory accounting courses contributes to effective learning. The findings are as follows. First, the more actively that students participate in the game, the higher their favorable changes in perceptions of accounting are. Second, the higher their positive perceptions are, the higher the accounting learning effects are.

These results imply that active involvement of learners is a precondition for the accounting learning effect of activities and that positive perception is a mediator for learning effects.

**Key words:** Accounting education, Board game, Active learning, Team activities, Learning effects



# Risk Taking and Open Innovation: Exploring a Creative Business Model

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## **Abstract**

Open innovation is increasingly popular but not easy to be successful due to a lot of risk involved in the open process. Risk-taking means doing that involves danger derived from various types of uncertainties. Such uncertainties can more generate in open innovation than in closed innovation due to the nature of 'open innovation' involved in many actors and processes beyond the control scope under closed innovation. Starting an open innovative business always involves some risk-taking, especially collaborating external actors outside organization.

Open innovation involved both advantages and disadvantages. External cooperation and good ideas outside organizations can allow firms to cope with inherent problems such as the secrecy and silo mentality embedded in closed innovation. However, open innovation inherently involves uncertainty because it is not easy to predict what is going to happen next as well as what the distribution of success probability looks like. Sharing and collaboration involved in open innovation process carry a risk with insufficient information and management controls. Open innovators are more likely to be a risk seeker, rather than a risk-neutral agent or a risk-averse agent. The degree of uncertainty of innovation tends to more increase across organizational boundaries and sectors than within organizations. The impact of open innovation has also covered various social actors as well as firms and consumers. Open innovators are required to identify potential risks from government regulation and politics as well as uncertain cooperation with other business actors. In consequence, open innovation can involve more technological, institutional, political uncertainty as well as managerial uncertainty.



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## **New Business model for enterprise system development - Unicage methodology**

**Mr. Nobuaki Tounaka**

Unicage methodology has been adopted mainly in Japanese major companies for their core business system for 15years and is expanding to international market. Unicage is very unique not only in technology but in business model. Combination of human skill evolvement, compact command sets and deep insight of project creates interesting model of Unicage business.

In this session, the founder of Unicage explains the outline of Unicage methodology with its history and episodes.

## **Social-oriented cooperation program Development of economic and social effect measurement model**

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### **Abstract**

The Ministry of Education, the Small and Medium Business Venture Department, and the Ministry of Commerce, Industry and Energy are supporting industry-university cooperation through various programs, but there is no means to measure policy effectiveness. In particular, the LINC+ project, which is a university-based industry-academia cooperation support project, has been setting up key directions for bi-directional industry-university cooperation reflecting the demand of the local community and industry from 2017 and establishing and implementing the ESI (Economic Social Index) Therefore, it is necessary to develop a standard model that can measure the effects of industry-academia cooperation activities on the local community and economy by using time series data centering on LINC+ participating universities.



# Smartcity as a driver of innovative economy on the example of Moscow

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## **Abstract**

The quality of life has significantly changed and undoubtedly improved in the last 15-20 years due to ubiquitous access to all-kind of city services. Also the ration between city inhabitants and rural inhabitants is constantly changes in the direction of increasing city population. In this regard, development of city services plays a major role in forming the future economy of city and investments in it.

Yet the heavy industrialization of 21-century and the growing population in the urban territories is now a challenge for city managers, planners and developers. That is why the development of Smartcities now is of high importance as it drives the innovative economy and investments in those.

Research question: The aim of this work is to find out, on the example of the Russian capital – Moscow, what services does this city has, how they are operated and implemented. Plus, this research aims to discover how investments and innovative economy of Smartcity are interrelated.

Literature review: This work is based on the official normative documents of Moscow authorities, the web-site of « Moscow Smartcity» services. Also in this work are used open source data and analytics from official services.

Documents that are analyzed: «Strategy of Smartcity – 2030» (2018), «Smart technologies in Moscow» (2017), «Moscow is a Smartcity. How this concept changes our lives» (2018), «How Does a Smart City Work in Moscow? » (2019) etc.

Methodology: The main methods used in this paper are the follows- analysis of document, statistical data analysis, comparative analysis, mixed qualitative and quantitative research method. Data from Moscow authorities and personal experience are a major part of this research.

## Multiplier technology factors and technological DNA

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### Abstract

In this study, we analyze the nature of Disruptive Innovation in terms of technical DNA. To do this, we first extract the technological DNA and environmental condition elements that are fundamental attributes of products and services from existing technologies. Then, we predict the possibility of DNA change depending on the correlation between extracted technological DNA and environmental condition elements. Finally, in this paper based on the case findings, we suggest "Multiplier Innovation" rather Disruptive Innovation. Technological DNA was not changed when Disruptive Innovation occurs. In this sense, this paper can contribute to new study of Innovation theory. As adaption of "Multiplier Innovation" theory rather Disruptive Innovation, we can explain the advent of new industries by fusion or convergence of technology DNA.

**Keywords:** Innovation, Disruptive Innovation, Multiplier Innovation, Technology DNA, Technology evolution, Product and Service evolution, New Industry



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# Effects and Responses of Taiwan-Japan Industry Cooperation Policy in Tokai Region, Japan

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**Yahn-Shir Chen**

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## **Abstract**

To facilitate the industrial cooperation and communication between Taiwan and Japan, Taiwan initiated an "Industrial Cooperation Bridging Plan between Taiwan and Japan" in November 2011. To respond to Taiwanese "Industrial Cooperation Bridging Plan between Taiwan and Japan", Japan signed a memorandum of understanding with Taiwan in November 2012.

After the Tohoku massive earthquake on 11 March 2011, government officers from five prefectures in the Tokai Region visited Taiwan. They actively communicated and cooperated with Taiwan government, resulting in an increasingly warm and friendly cooperation and communication between Taiwan and Japan. This also increases the researches about Taiwan-Japan industrial cooperation.

However, few researches investigate the effects of Taiwan-Japan industrial cooperation policy on Japanese government and enterprises in terms of Japan viewpoint. Hence, this study examines the effects and responses of Taiwan-Japan industry cooperation policy in Japanese Tokai region. First, this study inquiries into the economic and trade ties between the five Japanese local governments and Taiwan. Then, the status quo of the five counties in promoting Taiwan-Japan industrial cooperation policy is addressed. The viewpoints and responding measures taken by the five prefectures in Japanese Tokai region are investigated and compared. In final, this study summarizes the results from the investigations and analyses above. This study suggests some subjects and responding measures for the government and enterprises in Taiwan and Japan in the development of Taiwan-Japan industrial cooperation. This study also contributes knowledge to the literature on Taiwan-Japan industrial cooperation.

## The New Future of Display : Road Vehicle

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### Abstract

Global markets have become a commonplace of innovation. Innovation in the market is emerging as a convergence of products. A display is a representative device used in converged products like smartphones functioning as a television and a monitor. The display has pioneered a new future through innovation.

There is another place to emerge innovation recently. It is an automotive industry. The automotive industry now is entering a new era with autonomous vehicle. These changes would open up the new future of display industry. The display was a peripheral part in automobiles in the first place. However, as the driverless car has potential to free up the time to a driver, it becomes one of the important components by playing multifunction. Therefore, compatibility, portability and scalability would be the focal point of display technologies. Meanwhile, automotive industry highly concerns of safety. The automobiles strictly require the high level of safety standards. Therefore, display technologies are facing big challenges to conform the safety level for automobiles as well.

The ISO (International Organization for Standardization) has just started to develop the international standards for autonomous vehicles. Due to high demands on establishing common standards for automotive and displays, the ISO has built in liaison with the IEC (International Electrotechnical Commission) which sets standards for display. However, there is still no practical attempt to be made to develop the common standards.

This study aims to find the starting point of the discussion to establish standards for displays applied to automobiles. It will explore a common area using the Normative reference by ISO TC 22 (Road Vehicle) and IEC TC 110 (Electronic displays), and analyze the characteristics of technologies commonly required. Based on the results, it will propose corporate strategies and policy directions regarding standardization activities and relevant system improvement.

**Keywords:** Industry, Convergence, Standard, Display, Road vehicle



# Smart City Governance with Sustainable System Development Framework-An Empirical Study of Taipei City

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## Abstract

The "smart city" concept is helping countries develop strategic blueprints for transforming their economies. Many countries have started smart city development plans and became vanguards in the smart city movement. Two good plans include the "smart grid" in the United States and the "intelligent energy management" program in Amsterdam. A "smart city" is an innovative urban area that uses information and communication technology (ICT) and other means to improve a city's quality of life, operational efficiency, and competitiveness. A "sustainable" smart city also strives to meet the economic, social and environmental needs in the present and works on plans to meet those same needs in the future.

Analyses of different definitions of the term "smart city" reveal that different definitions emphasize different needs. Therefore, governments and stakeholders need to work together to develop a common understanding of what "smart city" means in their specific national and city-level contexts. In this paper, the authors use a holistic viewpoint and cross-regional data analyses to sample the case of Taipei City, Taiwan, as an empirical study. The goal is to investigate the principles and practices of smart city governance and sustainable infrastructure management.

The smart city concept offers different opportunities for different countries. The immediate need for cities in developing countries is to provide adequate urban infrastructure to meet the increasing pace of urbanization. In the process of meeting infrastructure demands, smart infrastructure applications provide a way for such cities to achieve leapfrogging in technology.



## Efficiency Analysis of R&D Investment for SMEs by Ministries of Korea

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### **Abstract**

The Korean government has been steadily promoting SMEs' technological innovation support for SMEs' sales growth and job creation, making the growth of SMEs the driving force of national growth. In particular, the R & D support project for SMEs' technological innovation is a large part of SME support, and various supports are being provided by various ministries of government. However, the efficiency of R & D projects has not been studied much. In particular, there has been little evaluation of the efficiency of SME support by each ministry. Therefore, this study analyzed the efficiency of R & D investment for SMEs by ministries of government and by SMEs using DEA model. To do this, we used the information provided by the K2Base (National R & D Information Integration Support Service) operated by the Korea Institute of Science & Technology Evaluation and Planning. In addition, DEA analysis of each ministry of government revealed potential improvable values of inefficient institutions, and the relative efficiency was verified by considering the characteristics of each institution based on the efficiency results of SMEs. In this way, we have verified that national R & D investment is effective in the growth of SMEs. We will improve the efficiency of national research and development investment to support SMEs in the future and establish the basis for policy decision making for mid-to-long term plan.

**Purpose/ Research Question:** The purpose of this study is to analyze the efficiency of R & D investment for SMEs by ministries of government and by SMEs using DEA models. To achieve this, we used the information provided by the K2Base (National R & D Information Integration Support Service) operated by the Korea Institute of Science & Technology Evaluation and Planning. In addition, DEA analysis of each ministry of government revealed potential improvable values of inefficient institutions, and the relative efficiency was verified by considering the characteristics of each institution based on the efficiency results of SMEs. In this way, we have verified that national R & D investment is effective in the growth of SMEs.



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# Exploration on building a green governance system in a comprehensive way: Based on Japanese experience

Li wei an, Qin Lan

**ABSTRACT:**

Japan has faced serious environmental problems in a specific period of economic development, and its successful experience of reversing the passive situation and gradually building a green governance system deserves our reference, which is also facing severe environmental reality. Based on the theoretical framework of green governance, this study focuses on the overall operation of the green governance system constructed in Japan, explores the key links in the construction of green governance system from the practical experience of Japan, and puts forward the Japanese solutions to the main topics urgently needed to be solved in China from the theoretical and practical perspectives. The research finds that: 1. Japan has constructed a clear and complete green governance system from the perspective of family, enterprise and government, involving and coordinating many actors; 2. Japan's green governance process is centered on family and enterprise, and the driving mechanism is market-oriented; 3. China's green governance system needs to study thoughts and relevant policy recommendations such as "priority key points" from Japan's "integrity" in the construction of China's Green Governance system.

**Key words:**

Green governance system , Japan , environment , recycling society

## How Social Innovation Creates Shared Value for Sustainable Community Development: Taking Kaohsiung Arena as an Example

Min-Ren Yan, Lin-Ya Hong, Hui-Lan Chi, Ray-Yin Kuo

For a long time, most research has been focus on the economic impact of sports stadiums and arenas, the results have shown ambiguous findings and relationship between sports facility construction and economic development (Rosentraub 1994; Baade 1996; Noll and Zimbalist 1997a; Coates and Humphreys 1999, 2003a). Yet little research pays attention on the impact of metropolitan arena, sports facilities and mega-events bring to citizen life and how social innovation corporate creates for community developments. Our research aims to bring a systematic view on measuring the impact of social innovation and shared value creation towards community development by analyzing the operation and management of large scale arena and mega-events, and its relationship and interactions with community citizen and the environment.

Social innovation aims to produce long lasting outcomes that are relevant for society, given the needs and challenges with which society wrestling (Bekkers, V.J.J.M., Tummers, L.G.2009, Voorberg, W.H., 2013). It looks beyond technological innovations and creates public values that are considered important. (Howalt and Schwarz, 2010; p. 18; Hartely, 2005; Moore, 1995). Furthermore, social innovation also refers to the idea of participation of and collaboration with relevant stakeholders that cross organizational boundaries and jurisdictions. (Bason, 2010; Sörensen & Torfing, 2011). This also corresponds with the notion of 'open innovation' (Chesbrough, 2003, 2006; Von Hippel, 2005, 2007). A more persuasive, yet incomplete, rationale is that new facilities improve the quality of life in a community. In economic theory, the quality of life effect is captured by three types of benefits. First area is consumer surplus. The second area is externalities. When one consumer benefits from an activity or good that he or she does not purchase, then he is enhancing his welfare or quality of life in a way that is not recorded in a market transaction. The third area is public goods. A public good has at least one of two characteristics. First, it is non-rival, and non-exclusive. (John Siegfried and Andrew Zimbalist, 2006)



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# Study on the change of residential energy consumption pattern and the potential of carbon emission reduction under the sharing economy

## -Taking bike sharing as an example

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### **Abstract**

With the help of big data and artificial intelligence, sharing economy has exploded in China. As a supplement to urban public transportation, sharing bicycle solves the travel problem of "the last kilometer", changes residents' travel concepts, and reduces travel costs and energy consumption. Most of the existing studies focus on the changes of total energy consumption, energy consumption structure and energy efficiency, and few people pay attention to the changes of terminal energy consumption pattern. This paper adopts the form of questionnaire including the residents' attitudes, intentions, travel behavior, consumption idea and so on towards bike sharing to analyze the factors influencing the change of residents' travel modes. And on this basis, this paper uses scenario analysis method to analyze the potential of carbon emission reduction under different scenarios and find the scenario with the strongest carbon emission reduction capability. The significance of this paper is to provide policy recommendations for optimizing energy consumption patterns in transportation.

**Keywords:** Sharing economy; Energy consumption pattern; Carbon reduction

# Development of Pavement Deterioration Model based on Machine Learning Method

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## **Abstract-Purpose/ Research Question**

Purpose: For road pavement deterioration modeling, this study aimed to apply linear regression (LR), random forest (RF), and decision tree (DT) algorithms, which are based on machine learning, and the deep neural network (DNN) algorithm.

Research Question: The methodology for developing the pavement deterioration model of road pavement is divided into deterministic and probabilistic methods. In deterministic methodologies, it is difficult to consider various and complex factors. The probabilistic methodology has limitations in that it is difficult to generate information about the causal relationship of pavement deterioration and the process of changing characteristics. To solve these problems, the method based on deep learning or machine learning was applied, rather than the existing statistical method, to ensure that the performance of the road pavement life estimate was improved.

## **Key Literature Reviews**

A Study on Machine learning and deep learning : Yi and Kim(2018) evaluate the applicability of a machine learning approach to the description of residential mobility patterns of households in the Seoul metropolitan region. The results of this study showed that a decision tree model can be more advantageous than ordinary least squares regression in terms of explanatory power. Also, Yun et al(2016) and Park(2018) said development of AI technology based on deep learning plays a very important role in the fourth industrial revolution.

A Study on prediction model using deep learning : Kuo and Huang (2018) proposed a electricity price forecasting system based on the combination of 2 deep neural networks, the Convolutional Neural Network (CNN) and the Long Short Term Memory (LSTM). In order to compare the overall performance of each algorithm, the Mean Absolute Error (MAE) and Root-Mean-Square error (RMSE) evaluating measures were applied in the experiments.

A Study on road pavement Prediction model: Attoh-Okine (1999) predicted the International Roughness Index (IRI) based on the back propagation algorithm of the artificial neural network.



# The innovation ecosystem formation mechanism of intellectual property operation based on Internet

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## Abstract

**Purpose/ Research Question:** In the context of the increasing demand for transferring scientific and technological achievements, the development of China's intellectual property operation platform has gradually become the focus of attention of the academic and practical circles. From the perspective of innovation ecological theory, this paper is mainly to explore the formation mechanism of innovative ecosystem which comes from the intellectual property operation platform based on the Internet.

**Key Literature Reviews (About 3~5 papers):** Scholars have carried out a lot of theoretical exploration on the transformation of scientific and technological achievements and the operation of intellectual property rights. The SECI model proposed by Nonaka and Takeuchi (1995) describes the characteristics of knowledge and location, and can be well used to explain the process of knowledge production and transformation in the operation of intellectual property rights. Under this framework, explicit knowledge and implicit knowledge transform each other under certain conditions (Nonaka et al., 2009). Therefore, universities, governments and enterprises with knowledge attributes can jointly form a three-helix innovation ecosystem in which knowledge creation, exchange, sharing and transfer are carried out (Carayannis et al., 2009). Ma (2011) et al. studied interdisciplinary and interregional knowledge innovation based on Internet platforms, and pointed out that regional innovation ability could be improved through resource sharing. Against the background of the development of Internet technology, various types of Internet operation platforms have emerged at the right moment.

## Bridging the Gap in the Commercialization Process of Digital Innovative Technology : Focusing on 3 Stage Technology-Product-Market Model

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### **Purpose/ Research Question**

The Budget of the Republic of Korea earmarked for R&D amounts is 19.4 trillion won(16 billion). (2016)

Technology Development is 96% , But, Technology Commercialization is only 47.2% (KERI, 2015)

Commercialization is the process which firm create economic value by converting knowledge, discoveries, and inventions into new or significantly improved products and services that satisfy consumers' needs.

The success of the technology commercialization means that the developed technologies create the economic gain (Kim Chan-ho et al., 2013). But, The critical problem of technology commercialization is that developed technology does not create economic performance.

Markham (2004) illustrates this relation as the 'valley of death', the gap between the technical development of an innovation and the commercializing process. Jolly(1997) describes this as four types of gap in the technology commercialization process.

Why does 'the Gap(valley of death)' appears in the commercialization process?

This is due to developer-oriented R&D are mismatched with market needs.

Technology-oriented R&D is focused on technology innovativeness or newness. If technology developers develop advanced technology, they will evaluate it as outstanding technology by evaluating only on the performance improvement itself. Which could be not on marketability. But consumers do not always want new or innovative technologies. New or innovative technology requires a lot of changes in existing behaviors and habits. According to the Theory of Technology Resistance, most consumers have a resistance to innovation because they do not have a priori desire for change. And the greater the degree of change, the greater the degree of resistance(Ram, 1987; Ram and sheth, 1989; Sheth, 1981).



# Patent Risk Evaluation in International Trade Based on the Analytic Hierarchy Process and Entropy Method

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## Abstract

Purpose/ Research Question: The main purpose of this study is to conduct a holistic evaluation on patent risk factors in the international trade process. Assessment and precaution of patent risks in international trade is of great significance for enterprises to reduce losses on patent infringement in the international trade. On the one hand, it is helpful for enterprises to prepare the potential risk in advance, so as to take preventive measures and countermeasures as soon as possible. On the other hand, it can indicate the specific approaches addressing the risk problems fundamentally. In fact, the patent risk is derived from the institutional difference and deficiency of patent protection, thus cooperation among developed countries and developing countries should be promoted to establish a more stable and orderly international trade system.

Key Literature Reviews (About 3~5 papers): There is no uniform definition for patent risk, and the concept of this terminology is also unclear. The existing literature generally describes this concept in perspective of legal risk, trade balance or project management. Failure of innovation, trade losses, infringing patent rights or patent rights infringed can all be regarded as the species of patent risk. At the level of Cross-border Trade, the most obvious patent risk in international trade is that the infringing products cannot be transited especially in the developed countries which have severe patent protection. For instance, the Section 337 in the US is one of the remedy approaches for patent infringement, and enterprises from specific countries that have weak patent protection or goods related to specific industrial field are probable to be investigated by the international trade commission (ITC) of the US (Lee et al., 2014). Conversely, in developing countries like India and Brazil, the patent law is lax compared with developed countries and inventions are hard to protect (Milstien et al., 2007).



# **Study on the Prediction of Economic Lifetime for Converging multi-component technology and its Application to Practical Cases for Technology Valuation**

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## **Abstract**

Purpose/ Research Question:

This research seeks to answer the questions which often happens to the valuation process:

1. As one of the primary variables in technology valuation, how will the economic life-time of a technology make difference or an effect on the calculation of the finalized market value?
2. In case that the target to value consists of multi-component patents, how will we determine the economic, efficient life-time of the converging technology or packaged technologies?
3. In order to provide a practical guideline to determine the duration of cash flow calculation or the period of potential profitability, will we find real-field valuation cases with a multi-component technology or converging technologies and validate them for applicable technology transfer, investment in kind, technology finance, etc.?

To cope with the issues above, we propose the way to estimate the economic, efficient life-time of the converging technology or packaged technologies of 2 real world cases in ICT medical and finance industry sector, and investigate how much the finalized results of the valuation are influenced with the sensitivity of economic life-time compared with other variables, e.g. calculation of cash flows via sales estimates, discount rate. Technology factor.



# A study on Technology Development Performance and Technology Commercialization according to Technology Development Capacity of SMEs Focusing on comparative Analysis Technology Business Groups

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**Won-IL Joh**

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## Abstract

### **Purpose/ Research Question:**

Accordingly, the objective of this research is to investigate the influential factors on performance by suggesting technological development results and technology commercialization as the outcome of technological development capacity and identifying the capacity required for successful technological development performance and technology commercialization for companies through academic preceding research. Moreover, the study aims to investigate performance differences according to technology business groups by dividing the groups into high-technology companies, mid-technology companies and universal-technology companies.

### **Key Literature Reviews (About 3~5 papers):**

Recently, a lot of small and mid-sized enterprises have emerged through continuous technological development and start-up successes in spite of insufficient scales and resources compared to medium enterprises or conglomerates in the fierce competition of the market. Technological development capacity that is required to acquire, select or utilize source technology for company competitiveness becomes the competitive edge and key capacity to have distinctiveness.

### **Design/ Methodology/ Approach:**

In this study, we set two dependent variables as the achievement of technology development capability and technology development achievement. In detail, we considered technology competitiveness, which means whether we have entered into new business field from technology development achievement, and product competitiveness, which means improvement of product quality and performance. As an independent variable, technology development capacity was used for analysis.

## How pipeline management affects on innovation performance in pharmaceutical industry

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### **Abstract - Purpose/ Research Question**

Grawal (2008) proposed that portfolio breadth(number of different therapeutic categories) is key factor for success of new drug development to shareholders and considerable diversification in therapeutic categories exists in new drug development. Although they proposed systematic results, they did not include the level of innovation and the long-term effect of portfolio due to the limited data.

Diversification across many indications seems to reduce the variation in firm performance by increasing the probability of drug development and the diversification of new drug also leads to innovation and improved productivity. So, firms have increased the drug project diversity by forming development alliances with partner firms and such alliances have become a vital source of innovation in the pharmaceutical industry and higher probability of success during clinical trials (Danzon, Nicholson, & Pereira, 2005)

Recently, the effects of firm's alliance portfolios, which refers to a collection of alliances on innovativeness and profitability have been studied in strategy (Hoffmann, 2007), marketing (Cui, 2013) and pricing factors (Lee, 2018A). Lee (2018B) proposed that development phase and attrition rate are influential determinants to estimate the license fee by drug class for potential business transactions.

So, we will analyze to know how pipeline management affects on innovation performance in pharmaceutical industry;

- strategy for diversification such as, therapeutic categories, indication and development stages
- strategy for alliances with their financial status.
- effects from diversification and alliances
- different outcomes between alliance and self-development



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## Toward an inclusive approach to accommodate diverse users of medical devices

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### **Abstract**

In recent years, an increase in the number of functionally impaired individuals and awareness of medical device use errors have necessitated the development of alternatives to conventional standard of measuring usability to accommodate various users' needs and mitigate design exclusion of medical devices. This study revisits the conventional approach by identifying the differences in the perceived usability of a medical device between different user groups. Specifically, the perception of the visual interface information of the working prototype of a lower-limb rehabilitation robotic device between three primary user groups was investigated and empirically analysed. Differences in the perceived ease-of-use and discrepancies in influencing factors on satisfaction were identified by ANOVA and regression analysis, which illustrated the inadequacy of conventional usability assessments. This approach encourages the medical device industry and design community to move toward more human centered, inclusive, and explorative methods. Considering the limited nature of the sampling performed in this study, wherein not all user types and prototype materials were covered, the next step is to incorporate more comprehensive samples and expand the scope of medical devices while collaborating closely with the industry to accurately reflect the diverse user requirements that currently conflict with the industry's perspective.

# Sharing What Is Learned from Outside Industrial Training with Organizational Peers

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## Abstract

**Purpose/ Research Question:** The present study aims to investigate sharing of 'what is learned from outside industrial training' with organizational peers. The subjects are trainees for the management related courses at Myanmar-Japan Center for Human Resource Development (MJC). Although trainers' primary objective is to acquire knowledge and skills taught in the trainings, they are expected to disseminate what is learned to their own organizations. In addition to learning by trainers themselves, we focus on the sharing of knowledge and skills with organizational peers, particularly from the perspective of their role as internal trainers/facilitators.

**Key Literature Reviews (About 3~5 papers):** In order to specify our research framework, we should consider three field of studies, that is, training transfer, training of trainers (ToT) as well as knowledge sharing. Here we want to introduce the recent literature reviews in each field. Training transfer is the application of the knowledge and skills acquired from training through behavioral changes of trainees. Blume et al. (2010) presented a meta-analysis of 89 empirical studies on the effect of predictive factors on training transfer to different tasks and contexts. It also examined moderator effects of the relationships above. Specifically, motivation and work environment had stronger relationships to transfer when the focus of training was on open (e.g., leadership development) as opposed to closed (e.g., computer software) skills, both of which are included in the courses provided by MJC. Moreover, Baldwin et al.'s (2017) conceptual paper suggested based on their review of the literature that the researchers should move toward more consumer-centric outcomes. Their recommendations for further efforts will be (1) systematically report information related to the trainees, trainers, and organizational contexts; (2) focus explicitly on the optimization of transfer; and (3) expand the measurement and reporting of transfer outcomes. Here in this context, it may advance the literature by including more explicitly the organizational peers (potential indirect consumers) of external training trainees (direct consumers).



# The implementation of ECG Measurement System based on the Android Platform

**Woongsik Kim**

*Prof. Konyang University, South Korea*

## **Abstract**

### **Purpose/ Research Question:**

The recent advanced in BIO signal measurement technology, our computing platform is rapidly shifting from desktop PC to Embedded System. Embedded system is evolving based on mobile platforms. Mobile platforms typically use Android platforms. In this paper, we implemented an Android platform-based ECG measuring system with similar precision as the data measured by an ECG meter in a hospital medical device. The most problematic aspect of most medical devices is the need for separate communications to link with PCs, but in this study, ECG can be measured directly without the need for separate communication because Android is used in embedded systems. In addition, an app program for ECG measurement was developed for mobile communication so that electrocardiogram can be measured more conveniently and conveniently.

### **Key Literature Reviews (About 3~5 papers):**

Electrocardiography abbreviation is ECG or EKG. When any muscle contracts, an electrical change is detected which is called defolarizaion on the body surface. Using this principle, the potential difference between two electrodes attached to the surface of the human body as a result of continuous electrical polarization of the atrial muscle, or any potential change in a point on the body surface, is drawn on the recorder or monitor. ECG is generally an important means of clinically examining abnormalities in the heart muscle. These detected ECG signals have a part called P,Q,R,S,T and their size, spacing, shape, and period are used as important elements of ECG signal interpretation. Figure 1 shows an example of a typical ECG signal.

### **Design/ Methodology/ Approach:**

The ECG measurement module, which is measured on commonly used measurement modules, measures 3-channel ECG. In a standard 12-channel ECG, an electrode is attached to the arm leg and chest and a signal is measured. However, in this paper, the ECG waveform was measured by amplifying the potential difference transmitted through the contact between the arms and the left leg and passing through the filter. The figure 2 shows the ECG signals actually measured by the oscilloscope.

# The development of Intelligent logistics management system using Android Platform

Yongsuk Kim

*Prof. Konyang University, South Korea*

## Abstract

### **Purpose/ Research Question:**

The importance of logistics management is very important to establish a computerization system to comprehensively manage distribution costs, speed up imports, reduce inventory space, and reduce inventory.

Therefore, facilities focused on providing specific services, such as large hospitals, are making great efforts to improve management, rationalize the purchasing system, and reduce the number of non-dispersions.

However, it is not aware of the importance of the comprehensive system for logistics management, so the purchasing and inventory management fields are managed based on the experience of the responsible employees rather than on scientific approaches, resulting in losses through direct and indirect access.

Looking at only the essential functions of the system, it is a custom integrated logistics management system that focuses on real-time monitoring of logistics, flow control, and monitoring by logistics and work flow dock, as well as current status waves of logistics.

To efficiently manage important information on these logistics, the development of the "The development of Intelligent logistics management system using Android Platform" proposed in this study is necessary.

### **Key Literature Reviews** (About 3~5 papers):

This study allows logistics management personnel to quickly communicate data to users (such as logistics engineers) through electronic displays because this system allows them to output data by location of installation of electronic displays.

In addition, product information can be printed through a monitor, and the vehicle number of standby requests can be output through LEDs, thereby increasing the efficiency of the logistics system.

### **Design/ Methodology/ Approach:**

- Developing an administrator program
- Development of server programs
- DB Server Development
- Development of LED display
- Development of monitor by dock



# Managerial Compensation and Environmental Innovation

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## Abstract

The aim of this study is to exam the causal relationship between employee compensation structures and P2 adoption. Previous research focuses on whether firm characteristics, pressure from anticipated stringency of regulation and stakeholders, and the practice of Total Quality Environmental Management are responsible for the adoption of P2. Ashford (1993) argues that managerial attitude toward both environmental quality and technological change decides the likelihood of P2 adoption. Therefore how to motivate executives to embrace these practices is critical to the success of P2 program.

The principal-agent conflict arises when executives act to maximize their own interest at the expense of shareholders. To ameliorate the disparity between the executives' concern for human capital return and the firm's concern for equity return, shareholders are advised to link executives' wealth to firm performance (Jensen and Mecking, 1976). The use of the equity-based compensation in the form of stock and stock options is gaining its ground in recent years, as shareholders are tried to align firm's performance with executives' utility maximization objectives (Murphy, 1999; Perry and Zenner, 2000). Higher sensitivity of executives' wealth to stock performance motivates executives to perform more effectively as the gain from hard-working can be delivered directly through stock price appreciation. However, compared with well-diversified shareholders, executives whose wealth highly depends on the firm performance are expected to display higher degree of risk aversion. Smith and Stulz (1985) argue that risk-averse managers are more likely to forgo positive net-present-value projects accompanied by high risk. To encourage managers to embrace risk-enhancing investment which is expected to bring substantial increase of the shareholder wealth, literatures proposed the use of the compensation structure that is convex to stock return (Jensen and Mecking, 1976; Haugen and Senbet, 1981). In other word, shareholders introduce compensation portfolios to managers which is sensitive to the stock price volatility, and in turn motivates managers to make ideal investment decisions albeit the possibility of greater uncertainty.

This study apply delta and vega to instrument for the linkage between executive wealth and stock performance.



# Open Collaborative Innovation in Informal Economy: The Emergence of Shenzhen Mobile Phone Industry

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## **ABSTRACT**

### **Purpose/Research Question:**

This paper adopts the open innovation perspective to study the emergence of Chinese bandit cell phones since the early 2000s. Using an in-depth case study approach, we examine how entrepreneurial actors in the industry managed to overcome institutional constraints and achieve market dominance. We highlight three particular groups of actors that are important to open innovation in the creation of this industry. These groups include: (1) lead users, (2) foreign suppliers, and (3) ethnic groups.

### **Key Literature Reviews:**

The origin of the Chinese bandit cell phone (also called Shanzhai Ji) industry dates to the early 2000s, when some volume of low-quality imitators were first sold in niche markets. Although illegal, the industry grew rapidly due to lax China license control regulation. By 2008, the market share of bandit cell phones reached 40 percent (refer to Fig. 1), and began to erode both foreign and Chinese branded cell phones market shares in China. During its evolution from obscurity to dominance, the industry has gained increasing recognition from the state, which in 2007 announced the lifting of license controls, fortifying the legitimization of the bandit cell phone industry. The purpose of this article is to examine how bandit cell phone entrepreneurial firms were able to break away from the status quo, innovate against dominant designers, challenge the state, and create a new industry in their interests.



# Evaluation for Alternatives of Land Use Plan in the Process of Climate Change Adaptation

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**Sang Don Lee(Corr.)**

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## ABSTRACT

**Purpose/ Research Question:** This study attempted to evaluate quantitative assessment for ecosystem service in the site of Eco-delta project in Busan in Korea.

**Design/ Methodology/ Approach:** As part of climate change adaptation, this study evaluated and compared with the value for carbon sequestration and habitat quality using the InVEST model (Integrated Valuation of Ecosystem Services and Tradeoffs) pre- and post-development serving three alternatives of land-use change. In year 2000, 2015 and 2020, Habitat Quality model and Carbon model were used to evaluate the habitat quality and carbon sequestration estimation.

**(Expected) Findings/Results:** As a result of the study, Carbon sequestration showed 216,674.48 Mg of C (year 2000), and 203,474.25 Mg of C (2015) reducing about 6.1%, and in the future of 2020 the value was dropped to 120,490.84 Mg of C which is 40% lower than year 2015. Alternative of land use planning 3 was the best in terms of carbon sequestration showing 6811.31 Mg of C. Habitat quality also changed from  $0.57 \pm 0.51$  (year of 2020),  $0.35 \pm 0.45$  (2015), and  $0.21 \pm 0.45$  (2020) with continued degradation as development goes further. Alternative 3 also was the highest with 0.21.

**Research limitations/ Implications:** In conclusion, this study illustrated that quantitative method for land use change in the process of EIA can help decision making for stakeholder and developers with serving the best scenario for low impact of carbon. Also it can help better for land use plan, greenhouse gas and natural environment assets in EIA.

**Keywords:** Carbon Sequestration, Climate change Adaptation, Ecosystem Services, Integrated Valuation of Ecosystem Services and Tradeoffs (InVEST), EIA

# The impact of Augmented Reality in the Perception of Environmental Issues

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## ABSTRACT

### **Purpose / Research question:**

As the environmental issues are getting more severe these days, users' acknowledgement and awareness towards the environmental issues become more important. This study suggests using the Augmented Reality as the tool in the interactions between environment and the public. The purpose of this study is to examine the influence of Augmented Reality on perceptions towards the environmental issue in the educational setting.

### **Literature Review**

The impacts of virtual environments have been explored in diverse settings, such as the educational setting (Bailenson et al., 2008; Klopfer & Sheldon, 2010). Virtual environments have the unique ability to alter the social dynamics of educational environments. Similarly, this study uses Augmented Reality as an educational tool to effectively deliver environmental issues to the public. Among diverse formats of Augmented Reality, this study especially adopts AR in the format of the book with the enhanced visualization function.

### **Methodology**

About 30 participants were recruited in the experiment and divided into two groups: Group 1 and Group 2. Apparatus used in the study was the Augmented Reality book of sea animals, birds, and African animals. Participants in Group 1 use the Mobile applications named "Dever kids" and "Blue Rabbit animal" with books. For 10 minutes, participants have the opportunities to observe each wildlife animal using the Augmented Reality books. Participants in group 2 are not exposed to Augmented Reality. They are just exposed to the book without using augmented reality application. Both group 1 and group 2 would answer the survey questionnaires regarding environmental sensitivity, recognition of life, environmental self-efficacy, and awareness of environmental problem. Using ANOVA, two groups' data were compared. After the survey, semi-structured interviews about perceptions were conducted.



# Chlorophyll estimation using low-resolution camera mounted on unmanned aerial vehicle in the buckwheat field to reduce nitrogen fertilizer waste

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**Purpose/ Research Question:** Nitrogen use efficiency in modern agriculture is very low. It means that a lot of synthetic chemicals are wasted rather than be utilized by crops. This can cause more problems where the soil surface is thin and rocky like Jeju island in Republic of Korea because overly used nitrogen fertilizer can be washed into the underground water to be polluted in this circumstance. Thus, it would be important to monitor the nitrogen deficiency of crops in the field to provide the right amount of nitrogen in the timely manner so that nitrogen wastes can be limited.

**Design/ Methodology/ Approach:**

**(Expected) Findings/Results:** To achieve this, normalized difference vegetation index (NDVI) was used to monitor chlorophyll contents, which is tightly associated with nitrogen contents, in the buckwheat field. NDVI was calculated with the data which was obtained by low-resolution camera mounted on the unmanned aerial vehicle. The results showed that the NDVI can estimate chlorophyll contents of buckwheat.

**Research limitations/ Implications:** These simple but clear results imply that the precision agriculture could be achieved even with low-resolution camera in the cost-effective manner in order to prevent over-usage of nitrogen fertilizer. This would be helpful to protect delicate environment like Jeju island.

**Keywords:** nitrogen, chlorophyll contents, near infrared, normalized difference vegetation index (NDVI)

## Eco-innovation in textile industrial cluster from network perspective

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### **Abstract-Purpose/ Research Question: Contents**

Facing more and stricter environmental policy situation, the ecologicalization of industrial cluster has become a new trend, which could achieve environmental and economic goal at the same time. Textile industry is one of the water-consuming and pollution-intensive industries. Therefore, it is important to investigate environmental management, especially wastewater management in textile industry.

During the Fourth Industrial Revolution, society is becoming more and more closely connected with the interaction of many stakeholders and environmental changes (Lee, M., et al., 2018). Though textile industry is a conservative industry and its industrial cluster is often shown as a centralized network, the interaction between stakeholders has become various and effective due to the development of digital monitoring system in this new era. Therefore, an eco-innovative management practice has emerged.

In this research, we intended to take textile industrial cluster as an example to introduce:

The current wastewater management system in textile industry in China

An innovative management practice in Shaoxing city, Zhejiang province

On that basis, we are going to investigate:

The interaction between different stakeholders in this industrial cluster

How to promote this innovative practice?



# Environmental potentials of best available techniques - the case of some key industrial sectors in China

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### Abstract

Anthropogenic activities including living and producing activities have posed increasing pressures on our living habitat. Demand for natural resources has been soaring to maintain our rapid development.

During industrial production process, the adoption of Best Available Techniques (BAT) can lessen impact on environment, therefore making substantial contributions to sustainable development. Furthermore, water saving and emissions reduction potential was chosen as the representative environmental potential indicator to conduct this research.

#### **Purpose/ Research Question:**

The aim of our research is investigate:

For some key industrial sectors, adopted rules to select their BAT.

Water saving and emissions reduction potential of specific BAT for corresponding sector.

Water saving and emissions reduction potential of Industrial symbiosis.

Scenario analysis of BAT, BAU, and some other candidate BAT scenario.

# Using DEA and DuPont analysis to explore the innovation ability and business performance of global companies in the aerospace and defense industry

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## Abstract

Purpose/ Research Question:

The global aerospace and defense (A&D) market is flourishing, led by growing commercial aircraft production and strong defense spending. According to the Commercial Market Outlook of Boeing Group in United States, global airlines will invest USD 6.3 trillion to purchase more than 42,700 aircraft, and the air cargo traffic is projected to grow at an average of 4.2 percent per year in the next two decades (2018-2038). Coupled with the unsettling geopolitical issues and heightened competitions, companies in the A&D industry have to efficiently manage their limited resources for optimal outcomes. In today's highly challenging environment, exploring the innovation- and profit-related efficiencies of companies in the A&D industry is thus an important empirical issue. The aims of this study are (1) to construct a two-stage data envelopment analysis (DEA) model for assessing the innovation ability and business performance.

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# Analysis of Factors Influencing the Matching of Ride-Hailing Service using Machine Learning Method

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## **Abstract**

### **Purpose/ Research Question**

Purpose: This study used T-map taxi service data that occurred in April 2017 for Seoul and Daejeon Metropolitan City in Korea. Logistic regression and decision tree algorithms based on machine learning were used, and the importance of variables affecting app taxi matching was analyzed.

Research Question: Recently, the online to offline industry has been growing greatly. Especially in the transportation sector, the service of app taxis is growing greatly. However, the introduction of such a ride-hailing service caused problems such as picking up passengers or refusing to ride the taxi driver and caused problems in improving the service. Therefore, it is necessary to draw a direction for service improvement based on factor analysis of that affect matching of app taxi service.

### **Key Literature Reviews**

Matthew et al. (2018) used multivariate analysis to see the increase of sharing transportation, such as Uber or Lyft, from 0.5% in general to 10% in a certain month through the 2017 National Household Travel Survey (NHTS). They found that sharing transportation was associated with transit and nonmotorized transport and was negatively correlated with car ownership and that residents in densely populated areas were more likely to use sharing transportation.



# SDGs Booming in Japanese Big Businesses: Implications to IoT, Financial and Social Innovations

**Mari Iizuka, Ph.D.**

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## ABSTRACT

At the beginning of 2016, when the SDGs started, Japan was very slow to acknowledge the importance of SDGs. Nobody knows, and nobody cares. However, as of early 2019, everyone knows, and everyone talks on SDGs in Japan's big business. Almost all of the presidents and CEOs of Keidanren, the biggest business associations in Japan, are not only aware of SDGs, but they are rushing to wear SDGs pins to show their commitments to the public.

What happened? The paper describes the efforts to push SDGs to mainstream of Japan business, in relation to 1) Keidanren's Society 5.0, efforts for IoT revolution; 2) ESG Investment, 3) Social Innovation as strategies of corporations, especially IoT sector.

The author has been served as a member of SDGs Task Force group of (UN's) Global Compact Network Japan since 2015 till now, and also a Chair of the Japan Global Compact Academic Network. As an insider of the SDGs movement in Japanese business, the paper describes the history, current status and future perspectives of Japanese business in terms of SDGs, with particular focus on IoT, financial and social innovations. Where will Japanese business tries to go under the SDGs environment? What are the implications to Keidanren's Society 5.0? What are the efforts of social innovation, particularly led by IoT corporations? What are the challenges they are facing? This is a piece of an action research of contemporary Japanese big business.

**Keywords:** SDGs, Society 5.0, IoT, Social Innovation, Financial Innovation, ESG, UN Global Compact, Sustainable Development, Japanese business



# An empirical study on the obstacle factors affecting R&D outsourcing on a basis of Innovation Resistance Model: Focus on the Automotive R&D in Korea

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**Minseo Kim(Corr)**

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## **Abstract -Purpose/ Research Question:**

This thesis introduces the "innovation resistance model" with empirical methods in order to explain why R&D outsourcing is not actively pursued in the Korean automotive industry. The study examines how the factors of R&D outsourcing (transaction cost characteristics, innovation characteristics, and user characteristics) recognized by R&D personnel in Korean automotive firms influence their resistance to or acceptance of R&D outsourcing. It also suggests ways to overcome the obstacles to R&D outsourcing in order to expand its presence.

## **Key Literature Reviews (About 3~5 papers):**

R&D outsourcing, as a representative practice of inbound "open innovation," plays a positive role in enhancing technological capability and technological innovation in knowledge intensive industries. However, R&D outsourcing has not been widely recognized as a bridge of technological innovation in Korea, and the Korean automotive industry is no exception.

## **Design/ Methodology/ Approach:**

In this study, the variables influencing the resistance and acceptance intention of R & D outsourcing in the automobile industry are classified into transaction cost, innovation, and user characteristics of R & D outsourcing. The characteristics of innovations in R & D outsourcing include perceived usefulness, suitability, and risk variables. The characteristics of users include the perception of R & D personnel, the tendency toward innovation, Self efficacy variables were considered. In addition, it was constructed so that the resistance of research and development workers influences their acceptance intention.

Results were obtained through basic statistics and multiple regression analysis of 202 questionnaires of R&D personnel from 39 Korean automotive firms. The findings of the study are as follows.

# Collaborative Green Business Ecosystem and Strategic Development with Open Innovation Platform

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**Jen-Ming Weng**

*Institute of International Business Administration, Chinese Culture University*

**Yong-Heng Li**

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## Abstract

In the green economy and globally competitive environment, continuous and open business model innovations with shared value have become a critical strategy for enterprises to develop competitiveness and market potential. Open business model innovations comprising the values of the social, environmental, and sustainable development have been highlighted as a new generation business model and opportunity in recent years. To this vision, the strategic thinking of "Creating Shared Value" (CSV) has been proposed that encourages enterprises to re-define the concept of products, markets, production value chain and local clustering development and the green industry.

To investigate the green industry, this research project takes a 70 billion NTD annually paper printing and publishing industry as the research object. Empirical data and in-depth interviews with industry experts will be adopted to explore the sustainability-oriented open business model innovation and market development strategy for international strategic alliances of green supply chain. Even though the green consumption and UPM green paper product innovation have been a global trend in the international community (UPM annual output already reached 10 billion euros), Taiwanese market and the grand China are still in the early stages of development and thus worthwhile for business research.

In order to enhance company's strategic planning capability and business performance, this research project aims to combine the theory of open innovation, business model development, management sciences and System Dynamics methodology to develop a Strategic Decision Support System for Open Business Innovations (SDSS). Through computer simulation technique, the proposed SDSS will help enterprises to increase the dynamic planning capabilities, business strategy performance and create added value. This research project will help to analyze the open business strategies for the green industry and market development.



# Research on Evolution and Consisting of Platform Business Model based on Structured User Resource

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## Abstract

The current platform theory has not yet a clear cognition about platform motivation, platform's construction and evolution mechanism, The platform strategy practice of enterprises is often confused or equated with the strategic concepts of diversification and scope economy, which results in the fact that enterprises could not really get the endogenous network structure effect of the platform that would not help the improvement of the dynamic capabilities of enterprises. Therefore, this paper built a combination study context of platform conversion (Evolution) based on the structured features of user demand (product demand or service demand; target customers or user goals) and enterprise resources foundation (manufacturing resource or service resources) to analyze the contingency characteristics of platform construction objects, platform stability and platform conversion path selection. The research findings as follows: the strategic goal of platform transformation is to search and acquire user resources; to realize the indirect network effect is the basic principle of platform path selection; the "Breakthrough of Unsteady State" aiming to customer goals is helpful to stimulate platform activity. This paper studied the conversion motivation and evolution mechanism of platform business mode firstly based on the perspective of structured user resource, and not only added and enriched the existed theoretical system of platform business model, but also there would be important theoretical reference value for enterprises to build high-level and sustainable network dynamic capability.

**Keywords:** innovation; platform; policy; business model

Lee, M. H., Yun, J. H. J., Pyka, A., Won, D. K., Kodama, F., Schiuma, G., Park, H. S., Jeon, J., Park, K. B., Jung, K. H., Yan, M. R., Lee, S. Y., and Zhao, X. (2018) How to Respond to the Fourth Industrial Revolution, or the Second Information Technology Revolution? Dynamic New Combinations between Technology, Market, and Society through Open Innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 4(3), 21.

## Research on the AI Model of Bank Credit Issuing and Lending - a Study on the Hotel Industry

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### Research Question

Corporate financing amount is large and combine with high risk. The traditional bank lending method is according to the corporate's finance and based on the experience of the loan officer to determine the loan amount or not to loan . It is susceptible to bias during the process. The information development of the financial industry is deeper and wider than other industries. Improve the efficiency and risk management of financial institutions through the combination of financial and technology. Let financial innovation move to a new competitive pattern. Therefore, if the loan program can use artificial intelligence technology to assist, the decision-making model is more efficient and the decision-making is more quality.

### Study Purpose

Under the consideration of credit evaluation, how does the banking industry construct an AI artificial intelligence assessment model for corporate lending.  
A successful strategy to assist bank lending business with AI artificial intelligence technology. The concept of this research can create new value for the bank lending business and successfully apply to other business areas.



# Evaluation of Technological Innovations and the Industrial Ecosystem of Science Parks in Shanghai-An Empirical Study

**Min-Ren Yan**

*Professor, Department of International Business Administration, Chinese Culture University, Taiwan*

**Yan Haiyan**

*Shanghai University of International Business and Economics*

**Zhan Lingyun**

*Shanghai University of International Business and Economics*

**Xu Mengen**

*Shanghai University of International Business and Economics*

## Abstract

For decades, an innovation-driven economy has been promoted in different countries as the major driving force behind development and growth in the world. The success of science parks has motivated countries around the globe to foster the clustering of the high-tech industry into parks. The development of these science parks drive regional and economic growth, examples of which include Silicon Valley in the USA, Cambridge Science Park in the UK, in addition to parks found in Russia, Israel, India, Taiwan, Japan, Korea, and China. The science parks of Zhongguancun in Beijing, Daedeok Innopolis in Korea, and Hsinchu Science Park in Taiwan are globally recognized for their connection with public policy and governmental support. In addition, continuous innovation and ecosystem developments have been identified as the critical driving factors for industries to compete and thrive under highly intensive global competitions. Since science parks and innovation policy is generally adopted by government bodies, a nation-wide macro viewpoint is needed for policy evaluation and the ecosystem should be considered as essential component of the national/regional economy. The collaboration between government, academia, and industry require a systems perspective. While the term "innovation ecosystem" can be used to refer to innovation systems within firms, districts or at a national level, the most common and perhaps most appropriate geography is the region (or for smaller countries, the country level) in which geographic proximity among actors is a key attribute of the ecosystem. Thus, innovation ecosystems can be seen as inter-organizational, political, economic, environmental, and technological systems that are catalyzed, sustained, and supported.

## Construction of AI model of trust fund raising — to hotel industry as the raising of mark

**Wei-Chuan Wang, Associate Professor**

*Department of Banking & Finance, Chinese Culture University, Taiwan*

**Chi-Hsuan Lin, Ph.D**

*Department of Hotel Management, Tourism and Historical Culture College, Zhaoqing University  
China*

**Corresponding Author: Chi Chen Tsai**

*Graduate Institute of International Business Administration College of Business, Chinese Culture  
University Taiwan*

### **Abstract-Purpose / Research Question:**

The revolutionary changes in financial industries in last decades make fundamental changes in the perspectives of convenience and the service content when users use information systems. In the 21st century, a successful company will perform different values by applying innovate technologies and experiencing big-data transactions. In addition, by using AI technology, a company can streamline its organization, react quicker and provide feedbacks timely to information system users. It is a trend that all companies will engage in AI and data processing technology in the future. Hence, there would be critical issues that an asset management company raises capitals via AI platform, creates intelligence transaction models, and then achieves the goals of the management.

### **Key Literature Reviews (About 3 ~5papers):**

Bhattacharjee, A., & Premkumar, G. (2004). Understanding Changes in Belief and Attitude Toward Information Technology Usage: A Theoretical Model and Longitudinal Test (Vol. 28).

D'Ambra, J., Wilson, C. S., & Akter, S. (2013). Application of the task-technology fit model to structure and evaluate the adoption of e-books by academics. *Journal of the American Society for Information Science and Technology*, 64(1), 48-64.

El-Hajji, M. A. (2010). Teachers' demographic characteristics, attributes and students' cognitive dimensions: A correlation analysis. *International Journal of Educational Administration*, 2(4), 603-608.

Kuo, R.-Z., & Lee, G.-G. (2011). Knowledge management system adoption : exploring the effects of empowering leadership, task-technology fit and compatibility. *Behaviour & Information Technology*, 30(1), 113-129.



# Open Innovation guarantee practices for banking industry in Myanmar

**Yuri Sadoi (Corr.)**

*Prof. Dr. Faculty of Economics, Meijo University, Japanese*

**Ye Tun Min**

*Ph.D candidate, Meijo University, Myanmar*

**Takeshi Arai**

*Ph.D candidate, Meijo University, Japan*

## **Abstract-Purpose/ Research Question:**

This paper aims to analyse the current problems of the banking sector in Myanmar and improvement practices for solving them. Myanmar banking system is far behind from the international standard and the least developed in South East Asia. There is a lack of public trust in the banking sector which was created by Myanmar's financial history.

The research question of the paper is why such lack of public trust in the banking sector formed, and what kind of improvement practices are going on.

## **Key Literature Reviews (About 3~5 papers):**

To learn the problems of Myanmar banking system, first thing to learn is the financial history how the problems was created. Turnell (2002) describes the banking history back to 1962 when the Revolutionary Council government nationalized all privately owned banks in the country. Later, the military government merged all banking into a single entity that would later be dismantled into four separate state-owned banks. In the early 1990s, the market was opened again to privately owned banks, but the 1997 Asian financial crisis, Myanmar's 2003 domestic banking crisis, and international sanctions severely impaired the development of the sector (Turnell 2002).

Since 2011, new government have enacted a series of reforms try to develop the financial sector as part of their agenda for opening Myanmar economy and accepting foreign direct investment in order to accelerating economic growth. The role of financial and banking sector and the importance for every economy can be stated as follows. A sound financial system is an essential for every economy. Turnel (2014) stated the financial sector mobilizes savings and allocates credits to other sectors to promote economic growth. It provides not only payment services but also enables coping with economic uncertainties by hedging, pooling, sharing, and pricing risks.



## Do government R&D grants promote innovation efficiency in Korean Pharmaceutical Industry?

**Ki soon, Shin**

*Senior researcher, Korea national institute of health, Republic of Korea  
Master, Health Science Business Convergence, College of Medicine, Chungbuk National University,  
South Korea*

**Eungdo Kim, & Kwangsoo Shin PhD(Corr.)**

*Assistant Professor, Graduate School of Health Science Business Convergence, College of Medicine,  
Chungbuk National University, South Korea*

### Abstract

#### **Purpose/ Research Question:**

What are the characteristics of Korean government R&D investment compared to public R&D in other OECD countries? Can Korea's public R&D investment Sustainable development through the establishment of a national innovation system (NIS)?

In Korea, public R&D is being criticized as having poor quality and inefficient operation. Is this a reasonable criticism? What are the various inefficiencies and what are their solutions?

The "national innovation system" theory emphasizes linkage the most. If so, did Korean R&D establish a cooperative network?

#### **Key Literature Reviews**

Science, technology and innovation (STI) are an important part of sustainable development. UNESCO recommends that countries take advantage of STI by building a strong and innovative system that fits their country's situation and implementing appropriate policies. Governments can develop strategic and coherent STI policies that are consistent with policy in other sectors, such as education, industry, and social structure. This policy and public investment should be used to build and develop robust science-policy-social infrastructure. In order to expand the share of the medium and high-tech industries that generate sustainable and high added value, scientific knowledge stocks must be accumulated sufficiently, and the creation of scientific knowledge can only be attained by continuously investing research and development costs and fostering excellent researchers .

That is why many countries are investing in R&D for innovative and sustainable economic-social development.



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# Human Resource Development for Creative Industry, - Implication from “Cool Japan” and “Visit Japan” program

**Motohiro Kurokawa**

*Professor, Takasaki City University of Economics, Japan*

## **Abstract**

It is necessary for middle income economies to find their path for continuous growth after having the period for labor-intensive and capital-intensive industrialization, since labor shortage has been occurring and labor-intensive production has started to transfer in low-income countries in accordance with global production network. In this point of view, Thailand also meets the moment in transforming economic activities, in addition to improvement in productivities under labor shortage, ways to utilize knowledge, technology, intellectual-intensive industries have been discussed, which is recently concluded as “Thailand 4.0”. In the new strategy, promotion of creative industry is emphasized for economic upgrade. Creative industry is defined as industry that is based on cultural background, historical knowledge and design input for value-added, which is expected to remark significant productivity compare to other industrial sectors. For example, few creative professionals will outcome valuable contents, and it will be wrapped up in digital media and easily distributed to millions of customers with fewer cost, which does not require neither larger human resource input as light industry, nor larger capital investment as heavy industry. It was early 1990s when movement to encourage creative industry has started in United Kingdom as “Cool Britannia”, and other developed countries followed up to realize knowledge-driven economies, in recent period, even developing countries are trying to develop it by its characteristics and merit to be a new growth engine.

Merits of creative industry should be emphasized, there are possibilities that creative industry development can cope with SME development and regional development. It is common understandings that design-related firms are relatively small. Design office is often operated by single designer, and cultural craft workshop is mainly operated as family business, thus, creative industry policy does not always give advantage to large firms. Some creative industries are based on traditional sector, cultural contents and knowledge, or sightseeing spots, those are located in regional areas.

# The Influence of Open Innovation Strategy on cooperate Innovation Performance: Focus on Open innovation Type and stage

**Seung-Min, Kim**

*Researcher, Korea Institute of Economy and Trade, Republic of Korea*

**Eung-do, Kim**

*Prof. Chungbuk National University, Republic of Korea*

## **Abstract**

### **Purpose/ Research Question:**

Developing new products in the pharmaceutical industry requires astronomical investment and a multidisciplinary team of experts for periods exceeding a decade. In spite of these long-term and high-cost investments, the risk of successful commercialization of blockbuster products is limited to less than 10%. (Joseph, A.D. et al, 2016) Therefore, the pharmaceutical industry is characterized by (1) high-level of technology (2) high-costs and long-term R&D and (3) high-risk and high-returns. However, even though companies have made various efforts to increase efficiency by reducing investment cost and increasing profit, R&D efficiency in this industry is gradually declining recently. (Carter, P.H. et al, 2016) Because it is difficult for one company to sustain the cost and duration of developing a new product, several companies share the product development stage similarly to a relay race. Over the past two decades, large international pharmaceutical companies have been increasingly involved in the transition to an open innovation R&D system from the traditionally closed R&D, through trading and collaboration with external research institutes and companies. Firms pursue partnership strategies such as M&A and Licensing to reduce the risk and expand the product pipeline. Small and medium-sized companies jointly develop through Partnership or have an Exit strategy through Licensing Out or M&A to resolve investment difficulties. These open innovation strategies allow firms to share risk with partners. (Sambandan, P. et al 2015)

The success of this open innovation strategy depends on how well firms can absorb external technological knowledge. Main research question of this study is what the capacity of a firm has in order to lead to the firm's performances.



# The impact of open innovation on patent registration

**Eui-Seob JEONG**

*Korea Institute of Science and Technology Information, SMB Knowledge Support Center*

**Sang-Woo KIM**

*Korea Institute of Science and Technology Information, SMB Knowledge Support Center*

## **Abstract**

### **Purpose/ Research Question:**

As the cost of patent registration and maintenance increases rapidly, companies are making efforts to 'patent efficiency' in order to save the cost as much as possible. Rather than holding a lot of patents unconditionally, it is necessary to have a strategy of 'choosing and concentrating' to protect the core patents.

In this paper, we study the effect of open innovation on the cost of patent registration for the automobile and pharmaceutical sector in order to select and concentrate patents.

### **Key Literature Reviews (About 3~5 papers):**

Jeong Hee Lee(2016), et al. suggest ways to predict the appropriate royalty rate and prepayment. Considering the characteristics of licensor on patent characteristics, licensee characteristics and characteristics. We pointed out that the nature of patents is important primarily in terms of technology deals and contract fees for groups, followed by the characteristics of the licensee.

Kim, Hyun-Joo(2016), et al. Investigate the strategic alliance portfolio and characteristics of key partners in the environmentally friendly automobile market, and use Toyota's patent information to present important management implications and suggestions to corporate managers and policy makers.

Jinhyo Joseph Yun(2015), The study included 144,625 patents submitted to the Patent Office from 1981 to 2010. Limited to cross-patent applications that are the goal of open innovation. Further research should be conducted on various open innovation channels such as patent citations, intellectual property rights transfer, licensing and M & A.



# **SOItmC & Meijo University 2019 Conference**

**June 28(Fri.) - July 1(Mon.), 2019,  
Meijo University, Nagoya, Japan**

**June 30(Sunday)**



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## *June 30 (Sunday)*

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**Venue: Room. 301, North Lecture Hall, 09:00~10:30**

### **Resilience Towards Sustainability & Second IT Revolution and University Innovation**

**Chairs: Sang-Don Lee(Ewha Womans University, Korea) & DooSeok Lee (DGIST, Korea)**

- Paper 1: "Implication of GPS monitoring to identify the habitat suitability model for Korean waterdeer" by **Sangdon Lee**
- Paper 2: "Expressing the Personalities of the Conversational Agents with Visual and Verbal Feedback" by **Seo-young Lee, Gyuho Lee, Soomin Kim & Joonhwan Lee**
- Paper 3: "The Study on relationship between digital marketing and Industrial brand reputation" by **Lo, Chih-Cheng; Ying-Chen Chen & Chang, Josephine**
- Paper 4: "Deep machine learning for Human deep learning" by **DooSeok Lee**
- Paper 5: "A Study on the Effects of Entrepreneurship Education on occupational choice: Mediating effect of Bricolage" by **Yu Shin Kim & Chang Soo Sung**
- Paper 6: "A Study on the Influence of Pre-Entrepreneur Entrepreneurship Education on the Entrepreneurial Intention - Focusing on mediating effects of Alertness" by **Hyun Kyu Lee, Kim, Yu Shin & Chang Soo Sung**

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## *June 30 (Sunday)*

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**Venue: Room. 501, North Lecture Hall, 09:00~10:30**

### **Collaboration, Trust, Public Motivation, Trend setting and Attitude toward Innovation and New Technology**

**Chair: KwangHo Jung(Seoul National University, Korea)**

- Paper 1: "Open Innovation, Collaboration, and Trust among and within Public Research Institutions of South Korea" by **Jineui Hahm, Kwangho Jung**
- Paper 2: "Factors affecting Outbound Open Innovation Performance in Bio-Pharmaceutical Industry - Focus on out-Licensing Deals" by **Ingyu Lee, Eungdo Kim\* & Kwangsoo Shin\***

- Paper 3: "Does administrative burden increase client payment error and fraud? The case of the US Supplemental Nutrition Assistance Program" by **Sabinne Lee, Kwangho Jung**
- Paper 4: "Profit-driven Globalization in Colonial Asia: The Case of Rangoon, Burma" by **Donald M. Seekins**
- Paper 5: "Public Service Motivation and Attitudes toward Sustainability" by **Kwangho Jung, Seung-Hee Lee, Jane E. Workman, Xiufeng Li**
- Paper 6: "Developing improvement model on technology valuation in bio-pharmaceutical industry- analyze royalty rate, attrition rate and duration based on drug class, drug type, drug development phase" by **Jonghak Woo, Eungdo Kim\*, Kwangsoo Shin\*, Tae-Eung Sung, Jongtaik, Lee & Jeonghee, Lee**

### ***June 30 (Sunday)***

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**Venue: Room. 503, North Lecture Hall, 09:00~10:30**

### **Opportunities and Challenges of Public Sector in the Intelligent Society**

**Chair: Dongwook Kim(Seoul National University, Korea)**

- Paper 1: "A Comparative Study of Digital Government Policies between Korea and USA- Focusing on comparison of E-Government Act -" by **Choong-Sik Chung**
- Paper 2: "Is social innovation a better way to do CSR?" by **Ching-Hui TANG & Ying-Che HSIEH**
- Paper 3: "Graduates' career choice towards social enterprises and NPOs" by **Jingjing WENG\* & Frances Wu**
- Paper 4: "How social enterprise deliver social innovation through co-creation process" by **Li-Hsiang YI, Yu-Hsuan KAO & Ying-Che HSIEH\***
- Paper 5: "Digital Technology, Innovation, and Policy" by **Wookjoon Sung & Dongwook Kim**
- Paper 6: "Prospects for Democracy in Burma: Understanding the Persistence and Entrenchment of Military Rule" by **Yatana Yamahata**



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## ***June 30 (Sunday)***

**Venue: Room. 504, North Lecture Hall, 09:00~10:30**

### **Initiatives for Multiculturalism and Ethnic Diversity: Grassroots Innovation and International Collaboration**

**Chair: Makiko Takeda(Aichi Gakuin University, Japan)**

- Paper 1: Facilitating Democratic Consolidation and Public Participation in State-Building: Academic Diplomacy Perspective” by **Chosein Yamahata**
- Paper 2: “Sustainability Effort Coordination under Additive Demand” by **Sungyong Choi & Brian Maeng**
- Paper 3: “Country-Specific Ownership Structures and Types of Innovation Strategies for the Performance of Korean Manufacturing Firms” by **Chooyeon Kim, Jihong Min & Jaewook Yoo**
- Paper 4: “Platform Growth Model: The Four Stages of Growth Model” by **Junic Kim**
- Paper 5: “Parallel Cooperation and Connectivity: The GMS-LMC Model for Regional Cooperation” by **Nisit Panthamit, Chosein Yamahata & Boripat Lebe**

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## **June 30 (Sunday)**

**Venue: Room. 301, North Lecture Hall, 14:00~15:30**

### **Entrepreneurial Opportunities & The Future of Democratic Consolidation and State-building: Challenges, Obstacles, and Prospects**

**Chairs: Chang-Soo Sung(Dongguk University, Korea) & Joo Yeon Park(Yongsei University, Korea) & Chosein Yamahata(Aichi Gakuin University, Japan)**

- Paper 1: “The Effects of Technology Entrepreneurship on Employment Change” by **Daesoo Choi, Chung-Gyu Byun, Kyung Hee Jung & Chang Soo Sung\***
- Paper 2: “Innovation in In-group Socializing and Social Cohesion: Peacebuilding in Myanmar” by **Myat Thet Thitsar**
- Paper 3: “The Effect of Equity-based Crowdfunding Investment on the Corporate Management Performance and Job Creation” by **Hanjun Cho, Chang Soo Sung & Joo Y. Park**



- Paper 4: "Shaping Federalism through Identity: Resurgence of Identity Politics in Smaller Ethnic Minority Areas of Myanmar" by

**Myat The Thitsar**

- Paper 5: "Topography of Post-Genomic Researches in Korea: Governance and Institutional Polymorphism" by **June-Seok Lee**
- Paper 6: "Effect analysis of short-term entrepreneurship education program: Focusing on moderate effects of Kolb's learning style" by **Joo Y. Park & Chang Soo Sung**  
**Chung-Gyu Byun & Chang Soo Sung**

### ***June 30 (Sunday)***

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**Venue: Room. 501, North Lecture Hall, 14:00~15:30**

#### **Dynamic of Open innovation in Biomedical Industry**

**Chairs: Eungdo Kim(Chungbuk National University, Korea) & Kwangsoo Shin(Chungbuk National University, Korea)**

- Paper 1: "Factors affecting merger and acquisition performance in pharmaceutical industry" by **Jimin Choi, EungdoKim\* & KwangsooShin**
- Paper 2: "Promoting Human Rights of Ethnic Children and Women through Poverty Reduction: A Case of Quang Nam Province" by **Vo Thi Anh Dinh**
- Paper 3: "Fashion Trendsetting, Creativity, and Technological Innovation: Gender Matters" by **Seung-Hee Lee, Jane Workman & Kwangho Jung**
- Paper 4: "Factors affecting the performance of government supported R&D project of Korean bio-pharmaceutical industry" by **Sunmi Jung, KwangsooShin\* & Eungdo Kim\***
- Paper 5: "Aid Effectiveness of Subprograms in Official Development Assistance on Human Development" by **Eunmi Lee, Kwangho Jung, Jinbae Sul & EunHyung Park**
- Paper 6: "User innovation strategy and its performance: The case of Korea smart media industry" by **Chungho Na, Kwangsoo Shin & EungdoKim\***

### ***June 30 (Sunday)***

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**Venue: Room. 503, North Lecture Hall, 14:00~15:30**



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## Social Innovation and Social Enterprise

Chair: Ying-Che Hsieh(National Tsing Hua University)

- Paper 1: "The study of social entrepreneurial teams" by **Li-Chun KUNG, Ying-Che HSIEH\***
- Paper 2: "The Managerial Dimension of Open Data Success: Focusing on the Open Data Initiatives in Korean Local Governments" by **Seok-Jin Eom & Jun Houg Kim**
- Paper 3: "How do social entrepreneurs develop their economic values?" by **Tzu-Ning KUO & Ying-Che HSIEH**
- Paper 4: "Analytical method of the impact of delay of internal process flow on corporate profit and cash flow" by **Kenji Kishida**
- Paper 5: "Online Political Parody: Political Communication under the Computer-related Crime Act (No.2) B.E.2560 (2017)" by **Pimonpan Chainan**
- Paper 6: "Linking Research and Education in Undergraduate School" by **Heungju Ahn**

*June 30 (Sunday)*

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Venue: Room. 504, North Lecture Hall, 14:00~15:30

## Innovation Management and Strategy

Chair: Junic Kim(KonKuk University, Korea)

- Paper 1: "Promotion of Ethnic Pluralism through Multilingual Education in Myanmar: Changes from Classroom" by **Makiko Takeda**
- Paper 2: "War And State-building process in Myanmar: why does it fail?" by **Dan Seng Lawn**
- Paper 3: "External Knowledge Search Strategies and Innovation Performance-A Mediated Moderation Analysis on the Relationship of External Knowledge Search Strategies, Organizational Ambidexterity, and Internal Assets" by **Choo Yeon Kim, Myung Sub Lim & Jae Wook Yoo\***
- Paper 4: "Smart Future Cities: challenges and opportunities" by **Anjali K. Sharma**
- Paper 5: "Deep Learning Based Steering Angle Correction System Using Vanishing Point for Autonomous Vehicle" by **Inhwan Bae, Minho Oh, Bokyung Cha, Yongseob Lim\*, Gyeungho Choi**

## Implication of GPS monitoring to identify the habitat suitability model for Korean waterdeer

Sang Don Lee(Corr.)

*Prof, Ewha Womans University, Korea*

### Abstract

#### Purpose/ Research Question:

- Identify endangered species, vegetation mapping, footprints, etc
- green-networking to connect forests and wetlands nearby
- Guideline for habitat management
- Waterdeer: HSI (Habitat Suitability Index)
- MCP (Minimum Convex Polygon) for home range

#### Design/ Methodology/ Approach:

- Analyzing suitable habitat for waterdeer
- Anthropogenic factors considering due to location in urban areas
- Using GIS, each habitat variable => HIS model resulted in SI

#### (Expected) Findings/Results:

Quantitative Measure for IUCN endangered species of waterdeer with Habitat Suitability Model Identified

Indicator species of waterdeer should be managed as a key species for ecological conservation and identify home range

For ecological restoration by identifying green-networking with surrounding areas (Amenities, Forest restoration, Habitat conservation)



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# Expressing the Personalities of the Conversational Agents with Visual and Verbal Feedback

**Seo-young Lee**

*Master, Seoul National University*

**Gyuhoo Lee**

*Ph.D., Seoul National University*

**Soomin Kim**

*Ph.D., Seoul National University*

**Joonhwan Lee (Corr.)**

*Prof., Seoul National University*

## **Abstract**

Conversational agents' unnatural reactions could frustrate users. In the affective computing, emotion was used to implement natural feedback. This study applies the personality to implement natural feedback of conversational agents. Study 1 (N= 45) explored the optimal visual feedback for personality expressions. Results demonstrated that motions of visual feedback are significant rather than colors. Fast motions could express distinct and positive personalities. Study 2 (N= 60) examined the optimal verbal cues. Results demonstrated that motions of visual feedback are significant rather than colors. Different verbal cues were perceived as different personalities. Fast motions could express distinct and positive personalities. Perceptions of personalities differed according to the gender of voice. This study provides the design implications for personality expressions applicable to diverse interfaces.

## **Research Purpose**

A large number of research has focused on emotion. This study argues that, for the long-term human-computer interaction, the interface's personality plays more crucial role than simple emotional reactions do.

# The Study on relationship between digital marketing and Industrial brand reputation

**Chihcheng Lo (Corr.).**

*Associate professor, Department of Industrial Education and Technology,  
National Changhua University of Education, Taiwan*

**Ying-Chen Chen**

*Graduate student, Graduate institute of Human Resource Management,  
National Changhua University of Education, Taiwan*

**Josephine Chang**

*Graduate student, Department of Industrial Education and Technology,  
National Changhua University of Education, Taiwan*

## **Short Abstract**

The aim of this paper is to understand what impacts Industrial Purchasing Organization perception about choosing a partner from various information perceived from different digital channels posted by industrial Supplier, that data and communication quality shall be well managed prior to being revealed or announced to digital channels. There are many literature contributed by other researchers and scholars regarding applying digital channel as the marketing strategy for industries. However, there is a gap that Industrial Suppliers might be eager to know what kind of data content, service, and information shall be provided to their potential customers, target customers, mainly Industrial Purchasing Organization, by different digital channels, appropriately and efficiently. This study has a closer look into what information perceived during communication process has positive affection to become perception about the brand reputation, and to impact Industrial Purchasing Organization preference and purchasing intention. Our findings are that hypotheses predicated product quality perception, e-communication quality, and e-WOM have an influence on the brand reputation.

## **Expanded Abstract**

### **Purpose/ Research Question:**

Aim of the paper is to understand what impacts Industrial Purchasing Organization perception about choosing a partner from various information perceived from different digital channels posted by Industrial supplier, that data and communication quality shall be well managed prior to be revealed or announced to digital channels. There are many literature contributed by other researchers and scholars regarding to apply digital channel as the marketing strategy for industries.



# Deep machine learning for Human deep learning

**DooSeok Lee\***

*Prof, Daegu Gyeongbuk Institute of Science and Technology (DGIST), Korea;*

## **Abstract**

There are many models that represent a student knowledge and content that can be used for personalized instruction, analysis of learning and content analysis. The idea of knowledge representation lies in a high dimensional embedding to capture the dynamics of learning and testing.

And knowledge tracing is a kind of sequence model that evaluate the student knowledge variation over time. So we can predict how a student will behave in the future.

Recently, the results of using the artificial neural network approach such as RNN (Recurrent Neural Network) and deep reinforcement learning have a significant improvement in the prediction performance of knowledge tracing.

In this paper, the author tries to evaluate a student knowledge not in the skills to specific problems but in the the degree of meta-cognitive skills.

Using a large-scale data set collected in real-world classrooms, the author adopt the meta leaning machine models to successfully predict student learning outcomes and to improve personalized learning.

### **Purpose/ Research Question:**

The previous knowledge tracing models use the traditional machine learning model solving a specific task which trains a model from scratch at each task using huge dataset.

But that's very far from how humans learn.

In this paper, the author will use the meta machine learning models to trace a student learning.

# A Study on the Effects of Entrepreneurship Education on Occupational Choice - Mediating effect of Bricolage

**Kim, Yu Shin**

*Doctor's course Dept. of Technology Entrepreneurship, Graduate school in Dongguk University, korea*

**Sung, Chang Soo**

*Dept. of Technology Entrepreneurship, Graduate school in Dongguk University, korea*

## **Abstract**

The purpose of this study is to examine the effect of entrepreneurship education on occupational choice of engineering students. The purpose of this study is to examine the influence of Bricolage on students and to propose diversity in the selection of college students through entrepreneurship curriculum. For this study, we examined the effects of entrepreneurship, bricolage, and occupational choice. As a result, entrepreneurship was found to affect occupational choice, entrepreneurship had a significant effect on bricolage, and Bricolage had a significant effect on occupational choice. It also confirmed the mediating effect of Bricolage on entrepreneurship and occupational choice. As a result of this study, I would like to suggest some implications for the importance of entrepreneurship education for college students through Bricolage.

**Key Word :** College engineering students, Entrepreneurship, Bricolage, Occupational choice

**Introduction:** Korean college students prefer large corporations and public enterprises because they want to work environment, social recognition, and regular employment. This makes it difficult to find talent in small and medium-sized enterprises (Park, 2017). In order to solve these problems, it is suggested that entrepreneurship education that can enhance the challenge, creativity and innovation to young people is needed. However, many resources, such as their own human resources and technical resources, are not available, and resources and opportunities are often not available. This is a waste of resources and can also result in a further shrinking of the domestic employment market. In this regard, entrepreneurship education can have a significant impact on employment in terms of quantity and quality of work (Hwang & Jeon, 2010). The purpose of this study is to provide opportunities for new occupational choice through entrepreneurial mindset through entrepreneurship education for engineering students.



# A Study on the Influence of Pre-Entrepreneur Entrepreneurship Education on the Entrepreneurial Intention - Focusing on mediating effects of Alertness

**Lee, Hyun Kyu**

*Doctor's course Dept. of Technology Entrepreneurship, Graduate school in Dongguk University, Korea*

**Kim, Yu Shin**

*Doctor's course Dept. of Technology Entrepreneurship, Graduate school in Dongguk University, Korea*

**Sung, Chang Soo**

*Dept. of Technology Entrepreneurship, Graduate school in Dongguk University, Korea*

## Abstract

### **Purpose/ Research Question:**

The purpose of this study is to examine the effect of the Pre-Entrepreneurial entrepreneurship education on the intention to start a business. The purpose of this study is to investigate how Pre-Entrepreneurial can find start-up opportunities in finding out start-up opportunities and find out opportunities for start-ups in a comprehensive way.

### **Key Literature Reviews (About 3~5 papers):**

#### **1. Entrepreneurship Education**

Entrepreneurship education is an education that conveys knowledge, skills and attitudes related to start-up to Pre-Entrepreneurial, and it means education to develop the ability to inspire entrepreneurship (Vesper, 1986). This kind of entrepreneurship education is known to contribute to the formation of qualities as a competent entrepreneur, such as helping preliminary entrepreneurs to understand the management of entrepreneurial enterprises, motivating actual entrepreneurship and raising the entrepreneurial spirit necessary for them (Higgins & Elliott, 2011).

Timmons (1994) emphasizes the importance and necessity of entrepreneurship education because entrepreneurship, entrepreneurship and entrepreneurship can be acquired rather than inherited. These studies show that entrepreneurship education mainly contributes to cultivating entrepreneurship, which is a key factor in entrepreneurial success, and promotes entrepreneurial intentions.



## Open Innovation, Collaboration, and Trust among and within Public Research Institutions of South Korea

**Jineui Hahm**

*Seoul National University*

**Kwangho Jung**

*Seoul National University*

### **Abstract**

As society shifts from a close to open paradigm, open innovation has always been a popular concept to discuss. Despite the fact that there are abundant studies regarding this field, there are still more to discuss about this field. The definition of open innovation is "the use of purposive inflows and outflows of knowledge to accelerate internal innovation and expand the markets for external use of innovation, respectively" (Chesbrough, Vanhaverbeke, & West, 2006). As previous studies such as study by Mention, Torkkeli, and Salampasis (2014) focused on trust that embedded open innovation, Hasche, Linton and Öberg (2017) focused their study on trust in open innovation examining the case of a med-tech start-up, and Ciesielska and Iskoujina (2012) focused on trust as a success factor in open innovation examining the case of Nokia and GNOME, this study will also concentrate on the impact of trust in open innovation. The purpose of this paper is to see the relationship between trust and open innovation through close investigation of reciprocal trust among researchers and inter-organizational relationships between research institutions in South Korea. In order to attain a precise measure of current trust among researchers and organizations, survey will be done to approximately 30 researchers from Korean science and engineering research institutions such as KRISS(Korea Research Institute of Standards and Science), KISTEP(Korea Institute of Science & Technology Evaluation and Planning), and KIST(Korea Institute of Science and Technology) to examine trust among researchers and other organizations and how this trust impacts innovation. The survey would contain questions regarding this matter, asking about the characteristics of the organization, trust among researchers and institutions, thoughts about innovation and more. After the survey, results will be analyzed using Regression Analysis to see the cause and effect of these two factors. Through this process, this paper aims to find methods for better open innovation through stronger trust among researchers and organizations.



# Factors affecting Outbound Open Innovation Performance in Bio-Pharmaceutical Industry - Focus on Out-Licensing Deals

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The fact that only about one out of 10,000 substances discovered in the R&D phase in the pharmaceutical industry becomes a marketable product (Gassmann and Reepmeyer 2005) shows the tremendous risk that these firms face regarding the outcome of their innovation efforts.

Pharmaceutical and chemical firms are under increasing regulatory and commercial pressure due to exceptionally high initial R&D costs (Whitehead et al. 2008; Arora and Fosfuri 2000) and long product development life cycles (Teece 1998)

## **OUTBOUND OPEN INNOVATION - Out Licensing strategy**

Open Innovation consists of different strategies in three archetypes Inbound(outside-in), outbound(inside-out) and coupled processes.(Gassmann and Enkel, 2004; Kisoos Shin. 2018) Earlier open innovation research focused on inbound processes, whereas outbound processes have received less attention (Mortara, L.2011).

Outbound open innovation, such as Out-licensing, is an inside-out process and includes opening up the innovation process to external knowledge exploitation (Mortara, L. 2011).

Out-licensing allows firms to capture additional value from their technology (Di Minin et al., 2010;Kim, 2009)

In the biotech industry, licensing loyalty is recognized as one of the most important revenue streams and as an Exit strategy to overcome the economic crisis.(Jeong Hee Lee et al. 2018)

# Does administrative burden increase client payment error and fraud? The case of the US Supplemental Nutrition Assistance Program

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## **Abstract**

In this study, we analyze the impact of Simplified Reporting (SR) on unintended and intended payment error rates caused by clients of the Supplemental Nutrition Assistance Program (SNAP). With the adoption of Simplified Reporting, the recipients of SNAP only have to report their economic status over an extended period and in a more simplified form, to reduce the administrative burden of the SNAP clients and agency. But reducing the administrative burden in the social security policy field faces the criticism that it can increase the possibility of fraud. Although there are some studies that deal with the concept of administrative burden, most of them are only focused on the behaviors of public officials or general citizens who are about to decide to enter the Social Security program. These limitations not only cause obscure differences between the administrative burden and red tape, but also cannot provide relevant policy implications for actual recipients of social security programs such as SNAP. Also, despite myths that reduced administrative burden can cause fraudulent behavior, there is no empirical evidence. By running several empirical models including a Panel Fixed Effect Model using 14-year State panel data, we conclude that Simplified Reporting and the reduced administrative burden do not increase fraudulent behavior but rather, help clients to receive relevant benefits from the government.

**Keywords:** Administrative Burden, Simplified Reporting, SNAP, Payment Error, Fraud, Management Innovation



# Profit-driven Globalization in Colonial Asia: The Case of Rangoon, Burma

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At the turn of the twenty-first century, New York Times columnist Thomas Friedman wrote in his book *The Lexus and the Olive Tree* that the “big story” of the post-Cold War world was globalization – the technology-driven erasure of geographical distance and national boundaries by the Internet. The flow of information, he argued, would create a more economically, socially, culturally and intellectually integrated world, though not one without conflict. Indeed, since Friedman wrote these comments, Internet-generated conflict had become all too apparent around the world.

However, globalization has manifested itself in earlier periods of human history, and the results have often been greater rather than less conflict and instability. During the nineteenth and early twentieth centuries, the colonizing powers, western countries and Japan, coercively occupied non-western lands in Asia, Africa and Oceania and imposed a “global” agenda of economic power and progress. The cities of the colonized world were landscapes created not only by the military imperatives of colonialism but also by processing and export of valuable natural resources, which were exported to the colonial metropole. In this presentation, I wish to present a case study of the city of Rangoon (now known as Yangon), the capital of British Burma between 1852 and 1948.

I will focus on three topics: (1) how the imperatives of defense and profits created a hierarchical society, the majority of whose members in Rangoon were foreigners; (2) how economic trends distant from Burma’s borders both guaranteed Rangoon’s prosperity and caused crisis in the early 20th century; and (3) how colonial “globalization” ended up creating disorder rather than order, conflict rather than the harmony wished for by the colonial elites.

**Keywords:** Geographical distance, national boundaries, economic power, hierarchical society, colonial globalization, disorder and conflict

## Public Service Motivation and Attitudes toward Sustainability

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### Abstract

This study seeks to explore the link between public service motivation (PSM) and sustainable environmental orientation. PSM such as interest in public issues, community service, consideration for neighbors, and self-sacrifice are expected to have a positive impact on sustainable environmental conservation. We introduce several research hypotheses about the relationship between PSM and sustainable environmental orientation. The higher the motivation for public service, the more interested in environmental issues. The higher the motivation for public service, the more likely it is that it will take its own damages to preserve the environment. The higher the motivation for public service, the more consideration and attention will be given to the surrounding environment. The higher the motivation for public service, the more the environmental problems surrounding the community will be viewed from a long-term perspective than from the short-term perspective. This study will use comparative surveys of college students in Korea, China and the United States. We will try to empirically analyze the above-mentioned research questions based on comparative research methodology and regression analysis.

**Keywords:** PSM, Sustainable Environmental Orientation, Long-term Time Preferences, Public Interest, Compassion, Self-sacrifice, and Attraction to Community



# Developing improvement model on technology valuation in bio-pharmaceutical industry- analyze royalty rate, attrition rate and duration based on drug class, drug type, drug development phase

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## **Abstract**

### **Purpose/ Research Question:**

The r-NPV method is the most frequently used the practical work in biopharmaceutical industry. Valuation for the drug under development is required for various purposes including merger and acquisition transaction, and two major quantitative valuation approaches, the discounted cash flow (DCF) method and the real options method are applied in the biotech industry. The risk-adjusted Net Present Value (r-NPV) method is an NPV method that uses only the attrition rate at the development stage as a discount rate to consider the risk at each development phase and has been developed to overcome the disadvantages of DCF and real options methodology.

# A Comparative Study of Digital Government Policies between Korea and USA - Focusing on comparison of E-Government Act -

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## **Abstract**

### **Purpose/ Research Question:**

Today, Korea and the United States are positioned as global leaders in the field of policy to promote digital government in 21st century intelligence information society. In the field of digital government, Korea has become one of the best in the world because of enactment of E-Government Act. Korea enacted the Electronic Government Act in 2001, and the United States enacted the Electronic Government Act in 2002. Currently, only Korea and the US have enacted e-government laws in the world.

Many developing countries are approaching the promotion of digital government and e-government from a technology-oriented standpoint. Therefore, it is experiencing many trial and error.

This paper aims to show that it is important to pursue digital government policy from the viewpoint of law and institution through comparison of e-government laws between Korea and the United States. Also, this study aims to provide policy implications to many developing countries that are currently establishing digital government related policies.

### **Key Literature Reviews:**

The United Nations E-Government Survey 2018: Gearing E-Government to Support Transformation towards sustainable and resilient societies was launched on July 19, 2018 (UN, 2018). The 2018 United Nations E-Government Survey considers the ways in which, using digital technology, governments can and are responding to shocks emanating from natural or man-made disasters and various types of other crises.

Many governments including Korea are allocating resources to establish an e-government (Deloitte, 2015). Therefore, Korea has become the world's top e-government leader in three consecutive years from 2010 to 2014(UN, 2010; 2012; 2014). In addition, many of Korea's e-government practices until now have been introduced to the world as the best cases and received worldwide acknowledgement (Chung, 2015). The United Nations e-government evaluation in 2018 was ranked third in the world after Denmark and Australia (UN, 2018). Recently, the United Nations is constantly revising e-government evaluation indicators.



# Is Social Innovation A Better Way To Do CSR?

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## **Abstract**

### **Purpose/ Research Question**

Research Question

—“Is social innovation a better way to do CSR?”

There are many ways to do CSR for companies. Social innovation becomes a new trend of it. Usually we think that CSR and social. Innovation is good and has positive effects on society, but perhaps they may have some negative effects. Implementing CSR by social innovation is emerging. But it is really promising for operating CSR? Or there are something we don't know that makes it not really a good way for CSR operating.

Research Objectives

— How companies do CSR by social innovation?

— What's the difference and results of social innovative CSR?

Keywords

— Social Innovation, CSR, Case Study, Qualitative, Social Enterprise,  
Non-profit, Small or Medium Enterprise

### **Key Literature Reviews**

“..... there is solid evidence in public discussion today that Social Innovation will be key for companies in the coming decade to achieve the needed Corporate Sustainability .....

”(Osburg, 2013)

“Assuming the willingness of business to endure by meeting the challenges ..... of the Triple Bottom Line, new innovative approaches are needed that go far beyond the traditional CSR concepts. Social Innovation could be the best known approach today to achieve the needed Corporate Sustainability.”(Osburg, 2013)



## Graduates' career choice towards social enterprises and NPOs

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**Frances Wu**

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### **ABSTRACT**

In recent decade, the development of social enterprises and nonprofit organizations have attracted more people's attention worldwide. It was observed that there has been an increased number of young graduates in Taiwan who tend to select social enterprise or nonprofit organizations as their first career choice even when given multiple job opportunities. This exploratory study aims to examine the possible influential factors which motivates the career decision process of Taiwanese students when making their career decision of joining these organizations. 10 graduates who chose social enterprises or nonprofit organizations as their first job were interviewed. The findings from this research prove life circumstances and learning experiences build up to one's career choice, excluding family expectations and conditional challenges.

**Research Background** During the past decade, nonprofits and governments have worked together in a deliberate partnership; government provided some services, and philanthropists filled in the gaps. However, current development of major social sector institutions are often viewed as inefficient, ineffective, and unresponsive (Dees, 2001). As a result, not only has there been a large growth in non-profit organizations, new business models have been developed as a way to bridge non-profit organizations and for-profit corporations.

The Taiwanese Ministry of Interior pegs the number of registered non-profits at over 60,000 and near 5,000 for social enterprises (Mirza, 2012). However, one of the greatest challenges that this industry faces in Taiwan is the concern for sustainability. With the new trend in the business community in Taiwan, understanding how to attract talents to sustain these businesses has become a primary focus for SE and NPO.



# How social enterprise deliver social innovation through co-creation process

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## **Abstract**

This study aims to investigate how social innovation being achieved throughout co-creation activities that various participants and social enterprises may have been involved. Existing social innovation theory mainly revealed the conceptual fulfilling process, and also discussed about how government policies or NPO conduct their social innovation under institutional context (Alvord, et al.,2004 ; Hartley, 2005 ; Bates,2012) However, few research has left any eye on the how social innovation been implemented and realized through existing mechanism or strategies (Chesbrough, 2006 ; Voorberg, 2015 ; Chesbrough & Di Minin, 2014). On the other hand, research have unfolded that co-creation activities would help social enterprise to enhance their social impact by collaborating with customers, suppliers and public citizens (Voorberg, 2015), which may finally become a facilitation of social innovation. Thus, this study tries to explore how co-creation contributes to generate social innovation under the context of Taiwanese social enterprise, and how social network have formed throughout the co-creation process that have contribute to social innovation.

## **Research Background**

Recently, social innovation has drawn public's attention by generating beneficial impact on solving various social issues, such as eco-friendly and humanitarian activities (Mulgan, 2006 ; Phillips, et al., 2015).

## Digital Technology, Innovation, and Policy

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### **Abstract**

" Why doesn't the evolution of new digital technologies lead to innovation? "

The purpose of this study is to explain why the development of digital technology does not lead to innovation and to analyze it in terms of policy process. In particular, this paper focuses on the political and economic characteristics of regulation and the time dynamics.

Wilson 's regulatory politics model is used to explain the relationship between regulation and innovation, which is regarded as the biggest obstacle to digital innovation. Wilson stressed that regulatory legislation and policy can have diverse political causes, and that regulatory political theory should be able to explain what causes and how they interact in any political context. Therefore, Wilson 's regulatory policy model classifies four political situations according to the distribution of perceived costs and perceived benefits of regulation, taking into account the organizational characteristics of the groups involved in the policy process and regulatory policy process of government regulation(1980). At this time, concentration and dispersion of profits and benefits are relative. In the case of concentration, it means that the object of cost and profit can be attributed to a specific actor, and dispersion can be interpreted as meaning that it is difficult to belong to a specific group because the object of cost and profit is close to an unspecified number.



# Prospects for Democracy in Burma: Understanding the Persistence and Entrenchment of Military Rule

**Yatana Yamahata**

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From the transfer of power to a quasi-civilian government in 2011 to the landslide victory of the National League for Democracy (NLD) in 2015, Burma had entered a new age of political rule after more than a half-century of military dictatorship. In contemporary world politics, most military regimes have “either given way to some form of democracy or been transformed into another form of authoritarianism” (Bünthe 2014: 742). Although Burma’s political liberalisation serves as one of the fundamental prospects for democracy, its military remains deeply rooted in the Burmese state and society. This essay aims to analyse the persistence and entrenchment of military rule in Burma by examining the following research question: why has military rule been institutionalised in Burma? It argues that the military regime has not only established formal political structures but also employed economic and social methods to legitimise its influence over the long term, thus preventing Burma from securing a genuine democracy.

As Burma faced “widespread disenchantment of the people for its dictatorial and repressive rule and also pressure from the international community condemning its brutality and reducing it to a pariah status through stringent sanctions,” the military regime engineered a “roadmap to democracy” in order to legitimise its rule (Ghoshal 2013: 118). Therefore, Burma’s transition was a top-down transformation, serving in favour of the military elites. The transition that started in 2011 was planned, beginning in 2003 with the military regime’s “roadmap to democracy,” which involved specific strategies such as, “drafting a new constitution in a National Convention (1993 - 1996, 2003 - 2007), holding a referendum on the new constitution (2008) and creating a regime-sponsored party and conducting (heavily scripted) elections in November 2010” (Jones 2014: 782; Bünthe 2016: 376). Therefore, “rather than regime instability forcing ‘pacts’ with internal and/or external opposition forces, the transition was clearly ‘dictated’ from a position of strength” (Jones 2014: 782).

Despite the recent regime transition, the Tatmadaw remains deeply entrenched in the political, economic and social aspects of the Burmese state and society.

## Facilitating Democratic Consolidation and Public Participation in Burma: Academic Diplomacy Perspective

**Chosein Yamahata**

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A popular catch phrase, 'freedom from fear', has 'freedom from want/need' as well as 'freedom from threat/violence/disruption' as the integral components in its comprehensive meaning applicable to everywhere. A country in transition mixed with much confusion and struggles as well as confrontations including a conflict-prone country like Burma/Myanmar needs a continuous process of getting rid of 'fear' in the hearts, heads and practice of her populations devoting toward a new path in building a democratic and developmental state. A successful process of promoting the culture of principles in tackling deeply rooted 'fear' of different kinds, possessed as a driving force to react in many situations by people along the created divides - ethnicity, race, religion, ideology, gender and geographical features, depends on protection of two vital freedoms – 'academic freedom' and 'media freedom', which are lifeline for the nation's democratic transition to prevail.

Since Myanmar has celebrated the beginning of transition to democracy, there have not been enough satisfactory results coming out as tangible and sharable benefits for most people. To find out the difficulties in Burma's transition to democracy and development even more than before becomes a motive of this study. Many countries across different continents have marched for their struggles in various manners to transform one system of governance to another for better. Some have emerged triumphant without much casualties, while others have experienced either troubled processes of change or its apparent failure. One of the common motives of transition is originated from the accumulated combination of freedom deficits, including economic insecurity, human poverty and lack of political rights, suffered continuously by the majority of the citizens. In some cases, governments act as the initiators of necessary change, while in others, change is brought about through civil society led mass movements. There are also exceptional cases where external interventions are responsible for regime transitions, despite it being a rare occurrence.

In this paper, today's transition in Burma will be reviewed with respect to the roles of media and academia in promoting the two freedoms for dual functions - reducing deeply rooted 'fear' and related 'divides' and facilitating democratic consolidation by promoting public awareness through participation.



# Sustainability Effort Coordination under Additive Demand

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**Brian Maeng**

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## Abstract

Purpose/Research Question: The purpose of this paper is to present a mathematical model that describes the impact of sustainability investment to consider emission regulation in decentralized and centralized supply chains.

**Key Literature Reviews (About 3~5 papers):** Choi (2018) provides an optimization model in individual firms with cap-and-trade (CAT) carbon emissions regulation. Under this circumstance, the goal of the paper is to draw theoretical and policy implications for carbon emissions regulation by setting and analyzing newsvendor models where the decision maker is loss-averse for her risk attitude. Choi, Park and Shim (2019) consider an optimal emission-trading problem under a CAT emission regulation. Then, they formulate two stochastic inventory optimization models, which can be applied immediately for two famous CAT policies (pollution tax regulations and baseline credit regulations) that exist in reality. On the other hand, Dong, Shen, Chow, Yang, and Ng (2016) study a sustainable product in which the product implies that the sustainability efforts from management can expand its market demand. In fact, this is well harmony with real industrial practices, adding practical implications and insights in this work. Then they examine the optimal order quantity of the retailer and sustainability efforts of the manufacturer for the decentralized supply chain with one retailer and one manufacturer. After then, they extend our study to the centralized supply chain. Finally, they investigate the achievability of supply chain coordination by various contracts.

**Design/Methodology/Approach:** It is assumed that demand is an additive function in the price of the product. By adding this assumption, it is currently an endogenous pricing model. Then, we analyze the optimal order quantity and sustainability efforts for the decentralized and centralized supply chain. Some contracts are also considered for the feasibility of supply chain coordination.

# Country-Specific Ownership Structures and Types of Innovation Strategies for the Performance of Korean Manufacturing Firms

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## **Abstract**

### **Purpose/ Research Question**

The first purpose of this study is to examine the effects of the types of innovation strategy on the performance of Korean manufacturing firms. According to the literature on technological innovation and organizational learning, innovation strategies can be classified into three types, namely explorative, exploitative, and ambidextrous (Jansen, Van den Bosch, & Volberda, 2005; Ye et al., 2018). Although many scholars have emphasized importance of all three strategies indiscriminately, the empirical evidence remains limited and mixed (He & Wong, 2004).

The second purpose of this study is to explore the effects of three different control mechanisms of Korean manufacturing firms on their performance. About 85.3% of the listed firms in Korea have founding-family ownership structure (Yoon, 2005), which derive three different types of control mechanisms: owner-control, professional manager-control, and joint control of owners and professional managers. In this study, we comparatively examine the effects of those control mechanisms on the performance of Korean manufacturing firms.

The last and most important purpose of the study is to provide an empirical evidence for the controlling mechanism that best fits with ambidextrous innovation strategy. For this purpose, we examine every possible fit between three different types of controlling mechanisms and innovation strategies of Korean manufacturing firms and explore their effects on performance.

### **Key Literature Reviews:**

**(1) Innovation Strategy:** Many scholars argue that a well-balanced combination of explorative and exploitative strategies on innovation is essential for long-term organizational success (March, 1991; Robbins, 2018).



# Platform Growth Model: The Four Stages of Growth Model

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## **Abstract**

Platform businesses are used widely in both academia and industry, and it is clear that platform businesses and strategies have become crucial research subjects. Indeed, it is hard to discuss innovation and the creative economy without mentioning platforms, which have become the core strategy for dominating the market. In particular, platform businesses, because they have complicated business structures, an accurate understanding of platform business is a key factor in being a successful platform provider. Thus, discussions of platform strategy need to be invigorated, platforms need to be utilised through companies' internal and external analyses, and strategy establishments need to be seriously considered. Corporations are yearning for new innovations and worry about the absence of an efficient and sustainable growth model. However, big problem is that the majority of studies of platform businesses have tended to focus on existing platforms in the market from the perspective of a static approach, not a dynamic approach.

The term 'platform' is used by industrial managers and researchers in various industries (Caillaud and Jullien, 2003; Inoue and Tsujimoto, 2018; Kim, 2016). The reasons for this are that platform innovation and strategy create value mainly through direct interactions between two or more distinct types of affiliated participants, what is known as a two or multi-sided platform. The platform provides an essential, or 'core' function to an encompassing system of use. It is the set of components and rules used in most user transactions (Eisenmann, et al., 2006; Yun, etl al., 2016). Components consist of hardware, software, and service modules, along with the structure of how they fit together. Rules are employed to manage platform participants' activities. Furthermore, a platform needs a 'network effect', which tends to radically strengthen the advantages of the platform itself as well as those for participants. Also, a platform typically emerges in the context of modular industries or industry ecosystems in order to generate revenue and continued growth. Therefore, the platform has emerged as a new, potent organizational strategy for innovation and business transactions in a number of industries. In summary, from a business economic standpoint, a platform business is composed of three theoretical concepts: two-sided market, network effect, and a business ecosystem— which are keys to its systematic nature.



## **Parallel Cooperation and Connectivity by Asian Powerhouse: The GMS-LMC Model for Regional Cooperation**

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Japan and China are two major economic powers in Asia that have played significant roles and implemented strategic programs in the Mekong Region with the aim to increase infrastructure development, provide opportunities, increase security, and drive the economies of its member countries. On the one hand, Japan has pushed for the Mekong Sub-region Economic Cooperation Program (GMS Program) to help identify and implement important sub-regional projects in various fields. On the other hand, China has been aggressively promoting the Belt and Road Initiative (BRI) and the Lancang-Mekong Cooperation (LMC) to achieve greater regional connectivity, physically and economically. Despite the differences in agendas and initiatives of the two leading countries, however, efforts have been made to encourage greater cooperation between the two powerhouses, as well as with member countries. Recently, Japanese Prime Minister Shinzo Abe and Chinese Premier Li Keqiang signed a raft of agreements after meeting in Beijing on October 26, 2018 that included economic and security initiatives aimed at improving bilateral ties, as well as easing maritime tensions, increasing cooperation in energy, infrastructure development and technology. In this way, China and Japan are seen as overcoming "obstacles" together and are moving "from competition to cooperation". This paper aims to apply the "academia diplomacy" framework to transmit the "from competition to cooperation" idea into a "parallel cooperation" strategy. This approach is particularly suitable in the context of China and Japan given the parallel, on-going programs GMS and BRI/LMC. By applying academic diplomacy to a regional initiative, this will help to improve the relationships from top to down levels, as well as increase trusts among the people in the member countries. Thus, this paper proposes a new model of regional cooperation.



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# The Effects of Technology Entrepreneurship on Employment Change

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## Abstract

### Purpose/ Research Question:

Klaus Schwab, chairman of the World Economic Forum, warned that in the fourth industrial revolution era, 7.1 million jobs worldwide will disappear over the next five years (World Economic Forum, 2016). An ironic phenomenon has emerged in which technological entrepreneurs and venture companies, which are expected to create jobs, are driving the industrial revolution, leading to a profound decline in jobs. Will technology start-ups create jobs as much as the government expects? In this regard, new technologies in a wide range of fields such as artificial intelligence, robotics, the Internet, autonomous vehicles, 3D printing, nanotechnology, and Quantum Computing warn that most of the existing jobs will disappear because of the replacement of our jobs. (Autor, 2015), which exaggerates and estimates the alternative size of labor in these claims, and re-invokes other forms of labor demand.

The purpose of this study is to find the answer through the analysis of actual data. In order to verify whether there is a difference in employment creation performance between technology start-ups and general enterprises and to verify whether the technology start-up support policy is valid by examining whether the technology start-up business affects the quantitative aspect of employment. For this purpose, this study examined prior studies on entrepreneurship, employment, technology entrepreneurship and employment, and defined the concept and scope of technology entrepreneurship for specific analysis. For the quantitative analysis for the purpose of the study, statistical data including information on technical entrepreneurship information, average employment number and new recruitment number among the national approval statistics were collected and analyzed.

## Building culture of Peace in Myanmar by Civil Society through social cohesion and ingroup socializing

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One of the conflict drivers for communal and ethnic armed conflicts in Myanmar identified by members of Civil Society is ethnic and religious exclusion. One of the inter-ethnic and inter-religious issues identified by the research is Burmanization or Majoritization which in fact is the prolong wound mainly started in Socialist dictatorship regime in Myanmar. Under the majoritarianism that is through Burmanization and Buddhisnization the multicultural nature Myanmar has never been truly activated. Myanmar currently have been faced with armed conflicts between ethnic armies and Myanmar Tatmadaw, and inter-ethnic conflicts. In addition, Muslims in Myanmar have also frequently been faced with violence by Buddhist communities. Civil Society in Myanmar is making contributions in building both positive and negative peace through different functions. The current presentation will focus on Myanmar's CSOs' efforts in building positive peace or building the culture of peace through the two functions ingroup socializing and social cohesion. The constraints and challenges for CSOs in implementing building culture of peace will be discussed in the presentation. The presentation is based on the research on the Role of CSOs in Myanmar's Peace Building Process, conducted by Enlightened Myanmar Research Foundation (EMReF) and Inclusive Peace and Transition Initiative (IPTI) from 2018 to 2019. The research explored civil society activities' peace building activities in Myanmar according to the civil society and peacebuilding framework developed by Paffenholz and Spurk in 2006 and validated in a research project from 2007-2010.

**Keywords:** Ethnic and religious exclusion, armed conflicts, positive peace, ingroup socializing, social cohesion



# The Effect of Equity-based Crowdfunding Investment on the Corporate Management Performance and Job Creation

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**Keywords:** Startup, Crowdfunding, Performance, Job Creation, Company revenue, follow-on investment, Venture Capital, Funding, Equity Financing

## **Purpose/ Research Question:**

Long-term growth stagnation and job insecurity continue. Globally in order to secure new growth engines and solve job problems, each country is emphasizing innovation and entrepreneurship, and focusing on fostering start-ups and venture businesses. As a result, the number of start-ups is steadily increasing, and the size of investment in venture companies is also steadily increasing. However, it is a fact that many start-up companies are not exceeding the "death valley". In the process of commercializing ideas, start-up companies can make seed money and develop technology, but fail to obtain additional funds for commercialization and market sales. For example, in 2013, the three-year survival rate of Korean startups is 41.0% (OECD, 2013), the survival rate of new businesses over 5 years is 24.8% and the survival rate over 10 years is only 8.2% (Hyundai Economic Research Institute, 2013).

Recently, the fourth industrial revolution has been actively discussed (Lee et al., 2018; park, 2017; kodama, 2018). In order to take full advantage of these environmental changes, many discussions are taking place to activate start-up and provide timely funds.

As a way to overcome the initial funding problems of venture start-ups, there is growing interest in Crowdfunding, which is a direct financing method by which companies collect funds from the public. The US has enacted the "JOBS ACT (Jump start Our Business Startups Act)" in April 2012. The Republic of Korea revised the "Capital Market and Financial Investment Business Act Amendment" in July 2015 and implemented it in January 2016, equity-based crowdfunding was institutionally allowed.

# **Shaping Federalism through Identity: Resurgence of Identity Politics in Smaller Ethnic Minority Areas of Myanmar**

**Myat The Thitsar**

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Myanmar's ethnic minorities, both larger and smaller minorities, had limited space to promote their identity under different eras of authoritarian regimes from one-party socialist regime to military regimes. However, in recent years of political transition and decentralization, different ethnic areas of Myanmar have seen as resurgence of identity politics. Importantly, this paper explores the emerging efforts of identity formation and separation by smaller ethnic groups, which are mainly resided in larger dominant ethnic area or multi-ethnic regions and previously played a subtle role in ethnic politics. These efforts have taken clear patterns in light of federal dreams which are fiercer in ethnic regions after Aung San Su Kyi's government came into power in 2016. The study looks at five different areas of smaller ethnic groups including PaO, Da Nu, Ta-ang (Palaung), Naga and Shan-ni (Tai-Lai Shan). The study explores different approaches that these ethnic groups have been using in their efforts of constructing, reinforcing and separating identity- in different areas covering from customary justice, language, culture and religions and history to some extreme cases of building military capability and confrontation. Secondly, the study examines structural pitfalls of the current state-led federal state building process and the historical National Convention, where six self-administered areas were decided to set up through undemocratic procedures. These pitfalls created by both undemocratic and democratic rulers of the countries are revealed by the study as significant attributes to growing uncertainties insecurities among ethnic minorities groups. Based on the findings, the study argues that through identity formation, reinforcing and separation, the smaller ethnic groups have been shaping a federalism which would render a secured position in which they can make as better compromises as possible with larger dominant ethnic groups. Finally, the paper concludes that the federal state building in Myanmar needs to have absolutely new approaches for all stakeholders.



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# Topography of Post-Genomic Researches in Korea: Governance and Institutional Polymorphism

**June-Seok Lee (Corr.)**

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## **Abstract**

Human Genome Project was a big science done by United States, U.K., France, China, Germany and Japan. But in Korea HGP was not constructed because of lack of governmental funding and failure to attract relevant actors' attention in spite of small voices from early genome researchers and some family members of patients with incurable diseases. This article does not argue that HGP in Korea was an undone science, a concept claimed by Scott Frickel, et al. Instead, it shows the historical fact that HGP was not constructed in Korea in 1990s and analyzes how genomic researches could become possible in Korea in the post-genomic age using the framework of triple-helix. In Korea, researchers have constructed hybrid networks and organizations that intermingles laboratories of university, industry, and government to conduct genomic researches which requires a lot of financial funding. This structure is different from the entrepreneurial university seen in developed countries such as the United States. Using two examples, this article shows that founding a start-up company by university researchers was not an option as in the United States, but a necessity in order to obtain enough funding to conduct genomic researches in Korea. Otherwise, researchers in Korean universities had to form hybrid networks with government to obtain small amount of funds to conduct researches. I argue that this phenomenon shows multifaceted characteristics of institutional structures regarding genomic researches in Korea.

**Keywords:** Genomic medicine, Triple helix, Research assemblage, Technoscientific governance, Institutional polymorphism, Undone science

## Effect analysis of short-term entrepreneurship education program: Focusing on moderate effects of Kolb's learning style

Chung Gyu Byun, Chang Soo Sung

### **Purpose/ Research Question:**

Over the past three decades, the rise of entrepreneurship as an academic discipline has followed a proliferation of entrepreneurship courses and programs in institutions of higher education. This growth has been based on the implicit premise that entrepreneurship education can contribute to the development of students' entrepreneurial attitudes, abilities, and skills, and hence enhance their intentions to launch new ventures. The entrepreneurship education can lower the uncertainty, change the negative perception of entrepreneurship, induce desire for entrepreneurship, and increase entrepreneurial intention. In the initial entrepreneurship curriculum, the entrepreneurial education program is an important process that can increase the attitude toward the entrepreneurship and help to do business. Although universities have implemented educational programs for the activation of entrepreneurship, research on effective entrepreneurial education methods is lacking. Therefore, the purpose of this study is to investigate which educational methodology is effective for student in developing start up preparation behavior, entrepreneurial efficacy and entrepreneurial intention. To do this, this study estimates pre and post results of student's responses for different educational methodologies and classifies students' learning styles based on Kolb's learning test tool.

### **Key Literature Reviews:**

The effects of entrepreneurship training programs are found in entrepreneurial opportunity discovery, entrepreneurial efficacy, and entrepreneurial intention (Oganisjam, 2015; Phillips et al., 2016). However, most research has merely put stress on discussing the individual factors (Park, 2005; Smith et al., 2009; Kim et al., 2017). Self-efficacy is defined here as an individual's belief in and desire to effectively achieve certain targets and tasks (Krueger, 1998). An individual's attitudes reflect his or her desire to perceive potential opportunities. For example, individuals with prior successful experiences and high self-efficacy tend to demonstrate increased motivation to seek out opportunities (Hostager et al., 1998; Park, 2005; Zhao et al, 2005; Pech and Cameron, 2006; Barbosa, 2007; Pihie, 2009).



# Factors affecting merger and acquisition performance in pharmaceutical industry

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## Abstract

### Purpose/ Research Question:

The concept of 'Open innovation' (hereinafter 'OI'), is actively leveraged from various kinds of industries including automotive, robotics, aviation [13], and even in architectural area [14,16]. Naturally, many researchers have endeavored to offer a persuasive framework and their efforts are ranging from general conceptual models [18] to industry-specific-models [17]. Thanks to the previous achievements, nowadays OI is considered as one of the most popular and indispensable survival strategies of biopharmaceutical firms as well, due to its inherent properties – high value, high uncertainty – of biopharmaceutical industry [10-12]. Given this high-risk environment, M&A has been leveraged from both small and medium-sized enterprises (hereinafter 'SME's), and large enterprises. SMEs use M&A not only as a survival strategy but as an exit strategy, which would enable them to maintain their momentum toward a new product development, whereas large enterprises use M&A as a way of finding new drug candidates. Therefore, there has been consistent efforts and studies to reveal factors that affect the outcome of mergers and acquisitions. These efforts and studies have struggled to explain the outcome and the influencing factors, in various ways – in terms of acquirer's experience, size, the strategic fit of acquirer and acquiree, and more – but only few have consolidated the factors, especially in the biopharmaceutical industry. Thus, this is the point where our question starts: what are pre-M&A factors that affect the outcome (performance) of M&A deal and can the relationship between the factors and the outcome be empirically proved?



## Promoting Human Rights of Ethnic Children and Women through Poverty Reduction: A Case of Quang Nam Province

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Since the economic and political reforms under Doi Moi was initiated in 1986, Vietnam has gradually become reintegrated into the world market, with the accession to membership of the Association of Southeast Asian Nations (ASEAN) and the revival of links with other countries in the world. On one hand, the country has achieved a remarkable economic progress, on the other hand, the sub-national (regional) disparities have yet to be narrowed, which has certain impacts on the most vulnerable groups such as children in terms of human rights affecting deprivation of their future potentials and choices. Health and education of children in rural and ethnic areas are part of such issues, which have been left behind by growth. Therefore, it is not easy for children to escape vicious cycle of poverty.

This paper analyses different dimensions of poverty – income, human and freedom poverty which the children and women in Quang Nam province face in their poor livings on daily basis. Their rights, opportunities, capacities, roles and choices in the future are constrained if no timely intervention is taken place. The study also discusses about the cause-effect relations on reducing poverty, promoting human rights and empowering women as a main focus of all case studies under a broader framework of human security while placing special attention to search useful lessons on capacity building toward community security and development.

**Keywords:** Poverty reduction, human rights, ethnic children and women



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# Fashion Trendsetting, Creativity, and Technological Innovation: Gender Matters

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## **Abstract**

Fashion technological advancement has brought dramatic changes to consumers' consumption behaviors. Consumers' self-awareness and sense of fashion are being transformed by technology. Because combinations of fashion and digital innovations are emerging, it is critical for researchers as well as retailers to understand consumer responses to new fashion technologies. Fashion trendsetting refers to individuals who are among the first to adopt an innovative fashion and then communicate this effectively to others (Batinic, Wolff & Haupt, 2008). Adoption and diffusion of new fashion products begin with the actions of trendsetters. Early in an innovation's life cycle, fashion trendsetters notice its potential, assess their purchase intentions and communicate its potential to others. Whether, or how quickly, consumers adopt new fashion technology products may depend on their characteristics (e.g., attitudes toward fashion technology, gender, and creativity). Gender also matters to developing the fashion trendsetting model, Among college students, women (vs men) indicated greater fashion trendsetting (Workman, Lee & Jung, 2017).

**Keywords:** Fashion Trendsetting, Creativity, Innovation, and Gender

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# Factors Affecting the Performance of Government Supported R&D Project in Korean Bio-Pharmaceutical Industry

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## Abstract

The purpose of this study is to analyze the factors that affect the performance the Korean Bio-Pharmaceutical Industry support project among the R&D projects of the Ministry of Health and Welfare, and to give policy implications to researchers and policy directions of promoting research projects in the field of new drug development in the future. Although there has been research on the total research cost, the ratio of private investment, research period, main agent of type and the cooperation type in government R&D or healthcare R&D, there is insufficient research to analyze, the capabilities of the principle investigator and the location of the research institution.

To this end, Government Supported R&D Project performance the Korean Bio-Pharmaceutical Industry support related to the development of new drugs in the health and medical technology R&D project from 2013 to 2017, the percentage of total research funds provided by research institutes as input variables to analyze the impact on their performance, the ratio of private investment by government supported, and the type of research-related research and research capabilities between researchers.



# Aid Effectiveness of Subprograms in Official Development Assistance on Human Development

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## Abstract

**Purpose/ Research Question:** Conventional studies are limited in identifying the effectiveness of each country to seek sectoral support rather than integrated aid [1]. We hypothesize that sector-specific aid by Official Development Assistance (ODA) is more effective than total aid. This study aims to identify the determinants of economic growth and the living standard levels in 63 countries, focusing particularly on the effects of Official Development Assistance (ODA).

**Key Literature Reviews:** Most research has been based on case studies [1,2,3] of specific donor countries, and such studies have not conducted much specific statistical analysis, such as the aid types of aid program individually, to prove the determinants of aid concentration. Previous research has neglected the fact that sector-specific aid can be more effective than total aid with ineffective sub-aid programs and, furthermore, that each developing country has a unique combination of various sub-programs in ODA. However, sector-specific ODA could motivate dynamics of open innovation such as social enterprises and illustrate the positive effects of innovation policies in various developing countries [4,5,6,7,8,9,10]. Further study is necessary to identify how various sub-programs of ODA vary from different HDI indices and what type of arrangements among various sub-programs is effective for each country.

**Design/ Methodology/ Approach:** In order to explore this research question, we have used two indexes: (1) the annual ODA grants to Korea, with aid type as the key independent variable; and (2) the human development index (HDI) [11].,

# User innovation strategy and its performance: The case of Korea smart media industry

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## Extended Abstract

### Purpose/ Research Question:

In the past 10 years, the concept of open innovation has received wide attention from academics and practitioners. Chesbrough(2006) argued that open innovation was categorized by inside-out and outside-in. The concept of open innovation has been used as a strategy by enterprises. The reason that a company could not have all abilities to do their businesses and strategies in environment with developing simultaneously many technologies. Therefore, it is important for a company to have good relationship with other companies. In addition, IT has been extremely developed compared to 10 years ago. That means there is a great change of environment surrounded. One of the characteristics of changed environment is technology convergence. That makes convergence of inter-industry as well as fusion of IT (Kodama and Shibata, 2017). People now can use some devices such as smart phone, smart TV, smart pad and smart watch. These are a manifestation of technology convergence.

As the IT-based environment continues to evolve and change, more and more companies become unable to provide themselves with all the resources and capabilities, and the relationships with each network entity that are able to exchange the necessary resources and capabilities are becoming more important. In addition, with the continuous development of IT technology, the development of media service based on this has changed the modern society from smart information society to smart society (Grosse et al., 2018). Smart society has changed from other industries based on IT society. One of them is technology convergence phenomenon which promotes convergence among other industries beyond IT convergence. The other is that smart devices such as smart phones, smart TVs, and smart pads generate innovation throughout the society and change and reinforce the role of users who use them (Corte et al., 2015).



# The study of social entrepreneurial teams

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## **Abstract**

This study aims to investigate the nascent social entrepreneurial teams in order to reveal the entrepreneurial process of establishing a firm from zero. Since the growing amount of start-up social enterprises in Taiwan, a number of researches investigated the individual social entrepreneurs, the development of social enterprises, and the process of social entrepreneurship from different perspectives. However, there is little research focused on the nascent social entrepreneurial teams to investigate how they identify entrepreneurial opportunities, find resources, choose partners, allocate works, cooperate with each other, and then finally establish a firm in the start-up stage. Therefore, this research will adopt qualitative research method to interview the founders and social entrepreneurial team members and do further analysis with grounded theory approach.

### **Purpose/ Research Question:**

To recognize how previous industry experience/ team working experience/ start-up experience of each member in the nascent social entrepreneurial team can help the firm develop and grow.

To reveal what resources the heterogeneity/ homogeneity team member provides to facilitate the development of social entrepreneurship in the nascent process.

To find what are the important human capitals that the nascent social entrepreneurial team need.

To identify what resources of social capital/ social network that the nascent social entrepreneurial team can acquire and apply.

To examine whether the social entrepreneurial team focus on economic and financial goal are more likely to establish firms than those are not.

To recognize what collaborative style and interaction between social entrepreneur and entrepreneurial team members influence the process of social entrepreneurship.

# The Managerial Dimension of Open Data Success: Focusing on the Open Data Initiatives in Korean Local Governments

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## **ABSTRACT**

Open government data (open data) initiatives have been at the forefront of the strategy to make more transparent, responsive, and accountable government, and thereby lead to open innovation across the public and private sector such as optimization of administrative processes and development of new products and services. Governments around the world often understand that open data success is publishing their data in an open format as much as possible and that it is the result of data and technology-related endeavor. Therefore, they tend to focus on increasing data compatibility and expanding technological infrastructure required for releasing more data. According to the resource-based theory, however, managerial capability to mobilize tangible and intangible resources and deploy them in adequate places or process under the leadership of capable leaders during the information technology (IT) project is a core factor leading to organizational performance such as open data success. Despite the importance of managerial capability in the literature on IT project management and performance, managerial capability is an often-mentioned, but under-explored research theme in the open data literature when it comes to discussing drivers and challenges of open data success. In this vein, this study aims to analyze the managerial drivers and challenges of open data success from the resource-based theory. These managerial drivers and challenges include the leadership-related factor (executive leader's willingness to push forward IT project), the resource-related factor (human resources and financial resources required for IT project), and the operation-related factor (operational experience of IT project). Institutional, socio-economic, and demographic factors are also considered for capturing the independent effect of each managerial factor on open data success in a more valid and accurate way.



# How Social Entrepreneurs Develop Their Economic Values?

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## **Abstract**

### **Purpose / Research Question**

Since Muhammad Yunus founded the Grameen Bank in 1972, the phenomenon of designing innovative business models to solve social problems has a booming growth in the past few decades. Therefore, many nonprofit organizations relying on donations and sponsorships only in the past start to develop their business model for sustainable operations with their social-value-increased missions. The purpose of this research is to find out the process and mechanism for NPO leaders to create the economic values for their institutions.

### **Key Literature Reviews (About 3~5 papers)**

In the commercial capital markets, the key motivation for all players involved is most often to build a profitable company and to earn an attractive return on investment. (James Austin et al. , 2012)

However, social entrepreneurs often rely heavily upon a range of funding sources, including individual contributions, foundation grants, member dues, user fees, and government payments. Furthermore, these funders have a wide range of motivations and expectations. (James Austin et al. , 2012) Common across all definitions of social entrepreneurship is the fact that the underlying drive for social entrepreneurship is to create social value, rather than personal and shareholder wealth (Zadek & Thake, 1997)

Nonprofit organizations (NPO) have been transforming into social enterprises due to the reduction.



## Analytical method of the impact of delay of internal process flow on corporate profit and cash flow

**Kenji Kishida**

*Nagoya Gakuin University emeritus professor*

In the financial accounting system, even if inefficient work is done inside the company, it will not be reflected in the accounting information unless there is a new financial burden or recovery of funds due to a decline in sales activity. The reason for this is that accounting measurement system basically accounts for funds settlement as accounting data to be measured.

Therefore, even though work that does not generate value is done on a daily basis within the company, if it is not recognized as accounting information, it will not lead to motivation to shorten inefficient work. Even if you use standard cost accounting for product manufacturing, you can not grasp it as a problem as long as you set operation degrees assuming inefficient work. Work setup is bad, work costs such as stagnation of manufacturing process and looking for necessary parts are not reflected in financial accounting. Management can not improve inefficient work unless cost evaluation is possible.

In this thesis, activities that do not produce value (such as production activities, sales activities, purchasing activities, inventory holding period, sales charge collection activity, purchasing fund payment activities, etc. that surround business activities, including the passage of time) as the delay of internal activities. For example, for a large number of in-house activities such as work setup time, holding time of work in process inventory, holding time of product stock, period of trade receivables not yet recovered, time of article moving in company, information input time, form creation time and delivery time Delay is included.

In this paper, we describe the influence of internal delay included in the life cycle of products and products on recovery of funds invested in products and products. Also explain why tricks for period profit and loss give a negative evaluation to the activity to compress excess inventory.

Many companies pass on bad profit due to delays in internal activities to other companies. For example, using the breakeven point analysis, forcing the buyer to discount, assuming that the purchase value is too high. As fixed costs are high, we try to lower employee's labor costs.



# Online Political Parody: Political Communication under the Computer-related Crime Act (No2) B.E.2560 (2017)

**Pimonpan Chainan**

*Chiang Mai University, Thailand*

Since a military coup in 2014, Thailand has entered tense political atmosphere, and the population has been under the control of the junta. Consequently, political communication on the Internet has been in steep decline, resulted from the implementation of the Computer-related Crime Act (No2) B.E.2560 (2017). This implies that people has been practicing self-censorship as they have witnessed cases which scholars, politicians, and activists who made strong criticism were prosecuted so that they fear that they will be imposed the same penalty if they violate the act. Given these points, this study examines political communication in the form of political parody and satire comic strips in social media. Data are collected from Facebook pages and shows on YouTube, then processed using content analysis to show patterns, points, and the significance of political communication. Additionally, interviews with relevant individuals like developers of the shows, scholars and political activists who are active in issues of freedom and the law during the junta's regime with the implementation of the act—the time people are crying out for democracy.

Political satire generally surfaces in time when people's freedom is restricted since they cannot directly express their thoughts against the injustice, politicians, and government. In other words, indirect political communication is established in the form of satire and parody letting media users to infer and relate the presented issues to current political affairs. Although political satire and parody may not lead to actual social change, it is the initial phase of exposing and questioning the existing social problems and can be considered as a struggle against the state government. By the nature of social media allowing anonymous authors, the authors and users' interactions can be taken as an accurate reflection of the country's current state of freedom during its political transformation.

**Keywords:** Political communication, parody, political satire, Computer-related crime act

## Linking Research and Education in Undergraduate School

**Heungju Ahn**

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**Abstract:** Our main interest in this talk is the education model in DGIST that links the research and education. We try to give an analyzing framework for the education model combining the education in undergraduate school with the research. As a result, we claim flexible and diverse models are necessary and have to make an educational environment to promote diverse models.

**Purpose/ Research Question:** It was indicated that research is a necessary component of the bachelor's degree education [7] and it has been believed that the research-based learning is preferable than the teacher-based learning [5]. Also, the higher education has been transformed into the emphasis of research experience following the tracking of undergraduate education in US [1, 6]. Apart from these claims and a priori supreme truth, undergraduate research is always controversial [4]. In [8], the undergraduate research was mentioned as "just glorified homework" and "there is considerable pressure on universities to offer undergraduate research programs to more effectively recruit the best high-school seniors." Another authors claims [9] "university research often detracts from the quality of teaching" In [4] the authors showed that students with research experience are more likely to pursue graduate degrees and in [2], 30% of researchers with more than a year of research experience reported that they expected to obtain a Ph.D., compared with only 13% of those with less than half year of research experience and 8% of those with no research experience. Apart from the controversial debates on undergraduate research, we want to focus on our institution DGIST. The main characteristics of DGIST are the following:

- 1) one department, that is, there is no department;
- 2) diverse interests of students;
- 3) the undergraduate and graduate schools are separated somehow;



## Promotion of Ethnic Pluralism through Multilingual Education in Myanmar: Changes from Classroom

**Makiko Takeda**

*Assistant Professor, Aichi Gakuin University, Japan*

Against the backdrop of democratic movements, globalization and outside pressures, the military junta came to have no alternative but to change the political landscape in Myanmar. Although the country took monumental steps toward democratization, there is still a long way to go to build a true democratic society that may well bring sustainable peace and development to the people. The brutal suppression committed by Burmese Army under the military administration generated a sense of distrust, grievance and fear in the minds of ethnic minority people which are too deeply ingrained to overcome easily. In addition, new opportunities that have been created by developmental projects, partial Nation Ceasefire Agreement (NCA) and the subsequent peace conferences have ironically led to the creation of multiple new divisions amongst different social groups. Ethnicity as well as religion remain the key issues for fostering a peaceful transition since these divisions reinforce and perpetuate inequality, discrimination and human insecurity. Unless harmony amongst citizens is established, peace will never be in the hands of the people.

This study aims to explore the possibilities of multilingual education to promote equality and social cohesion in Myanmar's divided society. First, the current situation and history in relation to ethnic and religious issues are described to understand the deep social divisions and the root causes. Second, literature related to peace-building, rectifying inequality and multilingual education that promotes cultural diversity, mutual understanding and equality are reviewed to formulate a conceptual framework for bringing about social transformation that might well bridge the various divides. Third, case studies of some monastic schools where ethnic language has been taught, are presented to reveal the students' and teachers' attitudes and opinions toward other ethnic groups and cultures. Thereafter, the possibility of multilingual education is discussed since it can be argued that the implementation of such a system from the early stage of education has the potential to change children's perceptions. It is hoped that it would lay the foundation of pluralist democracy and sustainable peace which can only be possible through the realization of a harmonious Myanmar.

## War And State-building process in Myanmar: why does it fail?

**Dan Seng Lawn**

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Despite media hype about Myanmar being transformed into a democratic State, Asia's longest civil war<sup>2</sup> is still going on in the country. Since 2011 ethnic rebellions have resumed dramatically, especially in northern and eastern parts of the country. Strategically important parts of the country, especially areas bordering with China, are less susceptible to State's control, let alone wholesale control. Against this gloomy backdrop, this paper sought to analyse the causes of failure of state-building process in Myanmar. Mainly it will look at the importance of the nature of the regime, the need for legitimacy in the context of ethnic diversity and proximity to great power i.e., China, as causal factors in explaining the failure of State-building process in Myanmar. Thus, this paper will throw some light on the actual lacuna between de jure and de facto sovereignty in understanding the politics of Myanmar.

**Keywords:** regime, legitimacy, civil war, ethnic diversity, sovereignty, state, army



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# External Knowledge Search Strategies and Innovation Performance

## A Mediated Moderation Analysis on the Relationship of External Knowledge Search Strategies, Organizational Ambidexterity, and Internal Assets

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### **Abstract**

#### **Purpose/ Research Question:**

Although the studies on organizational ambidexterity argue that maintaining a balance between explorative and exploitative innovation (hereafter referred to as 'balanced innovation') is essential for firms' superior performance (Atuahene-Gima, 2005; Tushman & O'Reilly, 1996; Ye et al., 2018; Robbins, 2018), they have not provided consistent findings on its strategic antecedents. Thus, the first goal of this study is to identify strategic antecedents that influence balanced innovation. For this purpose, we focus on the two different characteristics of firms' external knowledge search strategies: search depth and search breadth. The second goal is to provide an empirical evidence for the proposed argument that combination effects of the two external knowledge search strategies on firms' innovation performance would be mediated by balanced innovation. The final goal of this study is to examine the effects of internal complementary assets on the relationship between combination of external search strategies and balanced innovation.

#### **Key Literature Reviews**

While prior research attributed the lack of findings on differential effects of a balanced innovation on performance to the conflicting pressures that arise from pursuing fundamentally different activities 'within organization' (Raisch & Birkinshaw, 2009), some research identified different modes of balance - achieving 'the balance across organization' by externalizing either exploitative or explorative activities (Kim et al., 2018; Lavie & Rosenkopf, 2006; Rothaermel & Alexandre, 2009).

## Smart Future Cities : challenges and opportunities

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With urbanisation on the rise and highest ever in the history; towns to cities to mega cities and so on; with other dimensions getting added over time of essentially technology driven; as intelligent and smart. The word of smart got attached with cities essentially underpinned because of specificity and precession for infrastructure facilities their supply and consumption at large.

Incidentally the urbanisation is highest among Asian developing countries and with the concept of smart being taken up all nations is interesting; as the thresholds of all the countries are at varying thresholds of development. Therefore the smart as universal needs to be specified which are both a challenge and an opportunity as well. Challenging as the cities that are urbanising are governed by regional contexts and an opportunity as the ones that are yet to urbanise thus a huge potential to orient the development to be smart in true sense as the implications are global. Further the smart has been read in synchronisation with technology but there are concerns as well that needs to be addressed as the smart future cities needs to be sustainable and sustainability needs to be achieved at the global level and in that respect the regional framework needs to graduate to the global level such that makes the scenario both challenging and offers options to deliver as well.

The thrust of the paper shall be to dwell upon the said issue with reference to the world at large and demonstrate through selected examples the challenges and opportunities too.

**Key words:** Smart, Future Cities & Sustainability



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# Deep Learning Based Steering Angle Correction System Using Vanishing Point for Autonomous Vehicle

Inhwan Bae, Minho Oh, Bokyung Cha and Yongseob Lim\*, Gyeongho Choi

*DGIST, South Korea*

**Abstract:** In ADAS, there is the road driving system for autonomous vehicle, using a vision sensor. For this system, vanishing point and lane color information have been used as the main factors of image. Proposed algorithm, Steering Angle Correction Algorithm (SCA), runs with two main factors to get the desired heading angles and the degree of deviation in the main lane. In SCA, there are four major steps. First, deep learning called E-net is used for extracting the markers expressing lanes, cross-walks, speed bumps, etc. This step is helpful to judge the vanishing point or continuously determine the lane in following steps. Second, vanishing point is extracted from the origin image with the markers excluding lanes, to present the direction of road. Third, main lane is decided by using the lane markers, and the center point of main lane is extracted to get the direction for avoiding lane departure. Finally, the steering angle is calculated with the two directional factors. By using them, it is possible to prevent losing direction to the route. As the results, proposed SCA convinces not only that it works to recognize various elements of the road, but also that it is to decide the reliable steering angles.

**Keywords:** Autonomous driving system; Vision system; E-Net; Vanishing point; Lane detection; Image segmentation; Steering angle decision;





# **SOItmC & Meijo University 2019 Conference**

**June 28(Fri.) - July 1(Mon.), 2019,  
Meijo University, Nagoya, Japan**

**July 01 (Monday)**



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## *July 01 (Monday)*

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**Venue: Room. 103, North Lecture Hall, 08:00~10:30**

### **Poster Session**

**Chairs: Inga Lapina(Riga Technical University) & Juho Kiuru(University of Helsinki)**

- Paper 1: "The current issues of AI and Foxconn · Sharp's IOT consumer electronics product strategy" by **Wu Chia Chen**
- Paper 2: "Lean Smart Manufacturing in Taiwan -Focusing on the Bicycle Industry-" by **Lih-ren Li**
- Paper 3: "Impact of Government R&D Fund on Employment Performanceand the Mediating Effect of Technology Innovation: Focusing on Smalland Medium Companies of Korea" by **SeungHoo jin & SangOk Choi**
- Paper 4: "Inter-Organizational and geographical mobility of Chinese Inventors: Patterns and impacts" by **Deyun Yin\* & Zhao An**
- Paper 5: "The roles of business ties and political ties in open innovation: evidence from Emerging China" by **Wang, Chunhsien**
- Paper 6: "The Classification Analysis of Social Entrepreneur and Its Related Factors: Using Latent Class Analysis Method" by **ChangHwan Shin & Jungkyu, Park**
- Paper 7: "The Effect of Design Competence on Science Education" by **Jong Rae Park**
- Paper 8: "The impact of cluster's open innovation types on RIS productivity: Case study of US pharmaceutical companies" by **Hongbum Kim, Eungdo Kim**
- Paper 9: "The efficient collaboration strategy of US Pharmaceutical Companies in regional innovation system" by **Eungdo Kim\***
- Paper 10: "The impact of social capital on US pharmaceutical innovation cluster performance" by **Hongbum Kim & Eungdo Kim\***
- Paper 11: "A study on the utilizationstrategies for women science and technology human resources in a regional government" by **Saimi Woo & Junwon Chae**
- Paper 12: "Creation of Smart Little People Models and Their Applications for Creative Problem Solving" by **YoungTae Kim, Young Bae Chang\*, HaeJo Park & DeokSu Kim**
- Paper 13: "Customer orientations of service robots in restaurants" by **Valentina Della Corte, Giovanna Del Gaudio & Krishnan Umachandran**
- Paper 14: "Does government support promote open innovation in SMEs?" by **He Soung Ahn**

- Paper 15: A study on effect of the obstacles to innovation to the outcome of technology innovation" by **Mun Junho & Ryu Dongwoo**

## ***July 01 (Monday)***

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**Venue: Room. 104, North Lecture Hall, 08:00~10:30**

### **Poster Session**

**Chairs: Karine Oganisjana(Riga Technical University, Latvia) & XIAOFEI ZHAO(DGIST, Korea)**

- Paper 1: "What Dynamic Managerial Capabilities Are Needed for Greater Strategic Alliance Performance in IT Industry?" by **Čirjevskis, Andrejs & Felker, Yves M.**
- Paper 2: "Digital Maturity and Corporate Performance: Case of Baltic States" by **Eremina, Yulia, Lace, Natalja\* & Bistrova, Julija**
- Paper 3: "The impact of service quality cognition gap on customer complaint behavior: Product involvement as the moderator" by **Ching-Chang Wu & Yu Hsing Cheng\***
- Paper 4: "A study for skin analysis via cloud service to construct innovation models and aboard using system dynamics" by **Min-Ren Yan, Hsien-Jung Lee\***
- Paper 5: "Characteristic Analysis of Pine Wilt Disease using Time Series Hyperspectral Aerial Imagery" by **Myungsik Do\*, Seunghyun Choi, Junghwan Chae, Sung-hun Kim & Eon-taek Lim**
- Paper 6: "A Study on the Inequity Between the Housing Location and the Commuting Accessibility in the Socially Vulnerable Classes" by **Seongman Jang & Changhyo Yi\***
- Paper 7: "The mechanism, progress and enlightenment of National Network for Manufacturing Innovation: What can we learn from Manufacturing USA?" by **Yunhao Feng & Jinxi Wu\***
- Paper 8: "A Study on the Improvement of Operational Efficiency of Public R&D Management Agencies in South Korea" by **Byung Yong Hwang, Eun Song Bae, Heung Deug Hong & Dae Cheol Kim**
- Paper 9: "Identifying Key Success Factors for Scale-up of Regional SMEs: A Case of Ecopro" by **Kim, Choonghyun\*, Jaehoon Rhee & Junghyun Yoon\***
- Paper 10: "Collaborative Management and Competing Perspectives of Various Stakeholders for DMZ Policy Process" by **Yeo Bin Yoon, Kwangho Jung**
- Paper 11: "Open Innovation, and Creativity: Bureaucratic Pathologies" by **Eunhyeong Park, Kwangho Jung, Hyue-Su Ha**



- Paper 12: "The effect of firm's capability and knowledge characteristics on the technological innovation performance of acquiring firms in M&A: The case of biopharmaceutical industry" by **YejinLee, Eungdo Kim & Kwangsoo Shin\***
- Paper 13: "Evolution of open innovation by value-based network perspective: The case of Korean smart home industry" by **Eungdo Kim & Kwangsoo Shin\***
- Paper 14: "Developing evaluation framework for selecting optimal medical devices" by **Juhuck Park, Eungdo Kim\* & Kwangsoo Shin\***
- Paper 15: "The research of AI integrated AR training mode of the Semiconductor industry" by **Chi-Hsuan Lin, Wei-Chuan Wang & Yung-Chang Pao\***

### ***July 01 (Monday)***

**Venue: Room. 106, North Lecture Hall, 08:00~10:30**

#### **Poster Session**

**Chairs: Heather Yates(Oklahoma State University, USA) & KyungBae Park(Sangji University, Korea)**

- Paper 1: "Open Innovation culture and Its' Cycle" by **Xiaofei Zhao, JinHyo Joseph Yun\***
- Paper 2: "Basic Income with high open innovation dynamics- The way to entrepreneurial state" by **JinHyo Joseph Yun, KyungBae Park & SungDeuk Hahm**
- Paper 3: "Historical dynamics of Alibaba Open Innovation" by **JinHyo Joseph Yun, Xiaofei Zhao, KyungBae Park & Lei Shi**
- Paper 4: "Serial Entrepreneurs form Medison Open Innovation" by **Jinhyo Joseph Yun \*, MinHwa Lee\*, KyungBae Park, Xiaofei Zhao**
- Paper 5: "Internal marketization of corporate organization in the 4th industrial revolution" by **Achim Jang & Minhwa Lee\***
- Paper 6: "A Study on the Effect of Using Innovation Methodology on Innovation DNA Development and Corporate Performance" by **Dae-youn Hwang, Yeong-wha Sawng\* & Sun-Young Park**
- Paper 7: "A Study on Investment Decision-making Factors of Informal Investors for Start-up Investment" by **Tae Nyeun Kim, Yeong-wha Sawng\* & Sun-Young Park**
- Paper 8: "A Study on the Customer Churning Behavior according to the Market Maturity of Innovative Convergence Service: Focusing on the IPTV service" by **Myung-Joong Kim, Sun-Young Park\*, Hyun-ji Kim & Young-Gook Kim**

- Paper 9: "A Study on the Impact of the Innovation Capabilities of Service Firms on the Performance in the Global Market: Focusing on the Interaction Effect of Service R&D" by **Sun-Young Park, Kihin Wo\*, Minseo Kim & Jun-Young An**
- Paper 10: "Estimating Technology Lifetime based on Generalized Probabilistic Model" by **Byunghoon Kim\* & Sun-Hi Yoo**
- Paper 11: "Analysis of Factors affecting Licensing Deal-making strategies for Biotech Firms - Focused on the stage of new drug development" by **Insu Lee & Eungdo Kim\***
- Paper 12: "Research productivity in Korea: Gender matters?" by **Hyuk Han, Koomin Kim & DongWook Kim**
- Paper 13: "A study on technology commercialization policy: beyond Death Valley in R&D" by **Wookjoon Sung & Dongwook Kim**
- Paper 14: "Does open trade increase China's carbon emissions?" by **Longzheng Du & Xinyu Guo\***
- Paper 15: "Bank governance , media coverage and green loans" by **Lidong Wu\* & Yana Zhou**

### ***July 01 (Monday)***

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**Venue: Room. 107, North Lecture Hall, 08:00~10:30**

#### **Poster Session**

**Chairs: SHAPOSHNIKOV Sergei(Lomonosov Moscow State University, Russia) & ChangHwan Shin(Kyungpook National University, Korea)**

- Paper 1: "Effectiveness of Faculty Development Program for a MBA Course in Myanmar" by **Aung Kyaw\* & KhinSandar Thein**
- Paper 2: "Developing Structured On-the-Job Training for Local Trainers for Industrial Human Resource Development in Myanmar" by **Than Than Aung\*, Mon Mon Oo, Yuri Sadoi & Yoshi Takahashi**
- Paper 3: "Knowledge Diffusion Path Generated by Technological Collaborators: The Exploratory Case of the Advanced Coal Technology Consortium" by **Ben Zhang & Lei Ma**
- Paper 4: "Research on Regional Collaborative Innovation Platform Based on platform theory—With Nanning high tech Industrial Development Zone" by **Xiaoqing Huang, Xinyue Zhou, Yang Cheng & Lei Ma**
- Paper 5: "Virtual Reality vision training for Binocular dysfunctions" by **Jung-Un Jang**



- Paper 6: "Early Anti-Aging Convergence Research for Development of Beauty Education Program in Korea" by **Kyu-Ok Shin, Na-Gyeong Yeom & Hang-sik Park\***
- Paper 7: "Public Service Design Strategy Based on a Collaborative Creation Platform-Focusing on the Citizen-sympathetic Bus Stop Development Project of the Jeju Special Self-Governing Province-" by Youngok Jeon & Sinae Jung
- Paper 8: "The effect of personal value on CSV(creating shared value)" by **Jeongho Koo, Suhyun Baek & Sunah Kim\***
- Paper 9: "Effects of firm-level diversification of market, product, and technology on performance: Focused on diversity property" by **Eungdo Kim\***
- Paper 10: "Technology Configuration and Design Scheme For Block-chain Based Multiple Security Authentication in IoMT(Internet of Medical Things) System" by **Bong-Gyeol CHOI, Eui-Seob JEONG, Sang-Woo KIM, Jong-Kyu PARK & Jong-Man PARK**
- Paper 11: "How Do Relational and Organizational Characteristics Affect Joint Knowledge Creation in the Period of the Post-Merger Integration?" by **Jeonghwan Lee, In-Jong Lim & Jinju Lee**
- Paper 12: "The Impact of Multimarket Competition on Innovation Strategy: A Case Study of the Korean Game Companies in Japan and China by **Jinju Lee & Deahyung Im**
- Paper 13: "Intangible Resources and Internationalization for the Innovation Performance: An Empirical Evidence from Chinese Organizations" by **Yuhan Liu, Junic Kim, Jaewook Yoo**
- Paper 14: "Supplier, Tailor and Facilitator: The Typology of Platform Business Model" by **Junic Kim**
- Paper 15: "Regional innovation by practical method to the local situation" by **Daisei Okayama & Norihiro Nishimura\***
- Paper 16: "Indirect effects of regulation on audit firms in Taiwan" by **Yahn-Shir Chen, Kuan-Ju Lin**
- Paper 17: "Smart tourism destination. A bibliometrical analysis" by **Valentina Della Corte\*, Tindara Abbate & Giovanna Del Gaudio**

## The current issues of AI and Foxconn · Sharp's IOT consumer electronics product strategy

CHIA CHEN WU

*Ph.D., MEIJO University, Japan*

### **Abstract:**

This research will discuss the advantages of strategic alliance formed since 2016 the merger of Foxconn and Sharp Electronics. The synergistic effect of integrating the whole consumer electronic supply chain, utilizing the unique Sharp Japanese R&D culture into the fearless Foxconn OEM Taiwanese Taylor-ism manufacturing capabilities. The main focus are how Foxconn and Sharp are adopting AI and IOT into home entertainment and consumer electronics industries.

Due to current trends from Apple and Google shifting from hardware design to software developments and cloud services with IOT supports the whole hardware OEM industry is shrinking and weakening. From this perspective Taiwanese precision OEM maker Foxconn has formulate its Fourth Industrial Revolution strategic plan, 「Internet+」, 「8K+5G」 to transform itself gaining competitive advantage in the International Consumer Electronic Industry. Since the merger of Sharp at April 2016, Foxconn also planed to purchase the Nokia cell phone division from Microsoft to increase international brand exposure and increase market share in OEM. This will create the whole Foxconn Sharp entity another international brand-awareness with Nokia as add on to its existing mobile phone division.

### **Purpose/ Research Question:**

Sharp has been developing smart home electronics with fridges, washing machine, dryers and so on which are still very popular with Japanese customer and demanded for its branding products are still popular in consumer electronics, that's why Sharp is the leader in adopting AI in to the consumer electronics. Foxconn has setup for the purpose of designing AI and IoT consumer electronic products, formed within Sharp "Smart Home" and "Smart business solution" division associated with Sharp's "AIoT strategic Group". Current AI development plans for Sharp has split into 2 sections, one is embeded AI semiconductors into smart home consumer electronics, the other one is designing smart phones with the capability to link AI with smart home consumer electronics.



# Lean Smart Manufacturing in Taiwan-Focusing on the Bicycle Industry-

**Lih-ren Li**

*Associate Professor of Department of Japanese Studies,  
National Taichung University of Science and Technology, Taiwan*

## **Abstract**

### **Purpose/ Research Question:**

The purpose of this paper is to analyze the impact of smart technology centered on the IoT on manufacturing activities, then combine the Lean Production System and industry 4.0 to propose a new structure of Lean Smart Manufacturing, and to do empirical research about A-Team and Giant in Taiwan's bicycle industry. It is not only the realization of Lean Smart Manufacturing, but also further explores the two solutions proposed in the new architecture, especially the implementation of the strategic co-creation platform to examine the mechanism of the bicycle industry and enterprises to strengthen their competitiveness.

### **Key Literature Reviews (About 3~5 papers):**

Storbacka, K. (2011) developed solution business model framework. The framework consists of a solution process with four phases (develop solutions, create demand, sell solution, and deliver solution) and three groups of cross-functionality issues (commercialization, industrialization, and solution platform). They point to the importance of cross-functional alignment within firms. An effective solution business model requires the intricate coordination of resources and business processes across all functions. Nobeoka (2017) pointed out that there are changes of customer value into tacit nature in the past few years. Due to the tacit of customer value, the value sought by customers is difficult to express, and it is necessary to create value with customers.

Rüßmann, M. et al (2015) pointed out that Industry 4.0 redefines the life cycle of R&D, manufacturing, logistics, and after-sales service, affecting producers' entire value chain. For example: (1) insular manufacturing cells will be replaced by fully automated, integrated production lines, (2) products, production processes will be designed and commissioned virtually in one integrated process and through the collaboration of producers and suppliers, (3) manufacturing processes will increase in flexibility and allow for the economic production of small lot sizes.



# Impact of Government R&D Fund on Employment Performance and the Mediating Effect of Technology Innovation: Focusing on Small and Medium Companies of Korea

**Seung Hoo Jin**

*Ph.D., Science and Technology Studies, Korea University, Korean*

**Sang Ok Choi (Corr.)**

*Department of Public Administration, Korea University, Korean*

## **Abstract**

The environment of Korea Industries is seeing its fourth industrial revolution, leading by digitization, artificial intelligence, robotics, IoT connectivity, and Blockchain. Three major industries that represent Korea are the Electronics industry which ranked third in terms of production in 2017, while being the fifth-largest market in consumption; the automobile industry is today one of the most producing industry in Korea and the industry has produced various in-house models, showing not only its capabilities with design, performance and adopting advanced technology, but also demonstrating its coming of age since its output first reached one million units in 1988; the IT and business service industry which is the one of the best in the world, dominating international charts in R&D intensity, value-added digital production, and patent activity. However, the innovation environment of these three industries are significantly different. In the electronics industry, where two large companies, Samsung Electronics and SK Hynix are dominating the market locally and globally. They have faced compelling competition with other global companies in U.S. and China. Korea's automobile sector has changed its business competition structure when Hyundai Motors acquired the KIA motors to become the largest automobile company in Korea and also gets the capabilities to compete with other companies in the world. Also, GM Korea which is the second largest automobile company in Korea with its purchasing Daewoo motor in 2002 and relies on its plants in Korea as a key export hub, building vehicles for the United States and other countries but GM faced the financial problems since the production needs dropped after GM decided in 2013 to pull its Chevy brand from Europe. The IT and business service industry has been developed so fast because the fastest internet on earth and broad band services per capita is the highest in the globe but just like any tech industry in the world, there are many challenges that IT and business services sector encounter.



# Inter-Organizational and geographical mobility of Chinese Inventors: Patterns and impacts

**Deyun Yin (Corr.)**

*PhD Candidate, University of Tokyo, Japan*

**Zhao An**

## **Abstract**

### **Purpose/ Research Question:**

#### **Why Mobility matters?**

- Inventors as carriers of tacit knowledge, constitute one of major channels for knowledge spillover.
- In practice, inter-firm mobility of engineers is cherished as an important contributing factor for the success of the Silicon Valley or more specifically, the semiconductor industry.
- For repositioning (Tzabbar, 2009; Tzabbar, Aharonson, & Amburgey, 2013) & for diversification, expansion into new area.
- Acquisition of external knowledge and catch-up for Chinese firms (Shapo and Shi, 2018), which are weak in in-house capability. (Motohashi & Yun, 2007; Xiang, Cai, Lam, & Pei, 2013)
- Critical for an enterprises' or region's competitiveness and long-term economic development. (Fuller, I. Akinwande, & G. Sodini, 2017; Wu, Zhuo, & Wu, 2017; Pancholi et al., 2015, 2017; Radziwon & Bogers, 2018)

#### **Challenges:**

Existing studies mainly focus rural-urban mobility of labor force mainly due to the lack of micro-level data.

#### *Research Questions:*

How highly-skilled talents move in China?

How the patterns of mobility influence regional innovation?

Can less developed regions better off from linkage with central cities?

# The roles of business ties and political ties in open innovation: Evidence from emerging China

**Chun Hsien Wang**

*College of Management, National Chiayi University, Taiwan.*

*No.580.Sinmin Rd., Chiayi City 600, Taiwan*

## **Abstract**

### **Purpose/Research Question:**

While there is general agreement about the need for firms to both business and political ties in emerging China market, there has been little empirical research that has explored how firms can manage the external search for innovation knowledge resources that arises when the two ties coexist within organizations and how they can engage in open innovation activities. This research explores whether the open innovation activities of influential emerging market predict firm-level radical innovation output. We introduce a new theoretical model, the breadth of innovation knowledge sources of open innovation, to explain how three dimensions of innovation activities—breadth of innovation knowledge sources, business ties, political ties — predict a firm's radical innovation.

### **Key Literature Reviews (About 3~5 papers):**

Prior studies demonstrate the role of various facets of innovation knowledge in shaping a firm's innovation outcomes. We complement this line of research by theorizing and testing the impact firm's business and political ties on radical innovation outcomes. In line with recent studies (Leiponen and Helfat, 2010; Laursen and Salter, 2006) this study develops a measure of innovation knowledge sources come in different external sources with which a firm must interact with these actors for innovation engagement. In addition, managerial ties strengthen the relationship between focal firms and external actors, not only connect to government agencies but also link to business and university (Peng and Luo, 2000) especially in such emerging China market. These findings indicate the salience of managerial ties in increasing innovation success and the contingent role on political and business ties. Both types of ties strengthen the complementarity relationship between the interaction of the breadth of innovation knowledge and radical innovation performance.

### **Design/ Methodology/ Approach:**

To test the hypotheses, primary data were gathered from 287 manufacturing firms operating in emerging China high-technology development zones. Questionnaires were administered to senior managers in each firm to building empirical datasets. Multiple regression analyses were performed to test our hypotheses.



# The Classification Analysis of Social Entrepreneur and Its Related Factors: Using Latent Class Analysis Method

**Changhwan, Shin(Corr)**

*Associate Professor. Dept of Social Welfare, Kyungpook National University, Republic of Korea*

**Jungkyu, Park**

*Assistant Professor. Dept of Psychology, Kyungpook National University, Republic of Korea*

## **Purpose/ Research Question**

This study would pay attention to social entrepreneur who operate the social enterprise. Previous studies on social entrepreneur have mainly examined how social entrepreneurship affects the performance of social enterprise(S.E). In addition, strategy, environment, networking factors are being treated as influence factor of performance of S.E.

Research on social entrepreneurs needs to consider not only social entrepreneurship but also entrepreneurial qualities. So, this study defines social entrepreneurship and social entrepreneur's qualification as main characteristics of social entrepreneur and is going to classify characteristics of social entrepreneur and to its related factors .

The research question of this study is as follows; First, How are social entrepreneurs classified in terms of their entrepreneurship and qualities? Second, What are the factors related to the classification of social entrepreneurs? We will analyze environment, networking, and performance as related factors.

## **Key Literature Reviews**

The Factors affecting the performance of social enterprises.

Research on the success factors of social enterprises reveals that human factors, organizational factors, environmental factors affect performance. Human factors include CEO's managerial capacity, leadership(Shin, 2018;Kim & Jung, 2015), employee competence(Wadee & Padayachee, 2017;Quiroz-Niño & Murga-Menoyo, 2017), and innovation capability of manager(Yusr, 2016), social entrepreneurship (Weerawarden & Sullivan, 2007).

## The Effect of Design Competence on Science Education

**Jongrae Park**

*Associate Prof, DGIST, KOREA*

Recently, Design thinking method has been getting attention in many fields. It is used in developing new businesses, products and services, as well as methods of learning. Design thinking method is a way of finding a powerful solution through a process that people who have diverse expertise share or suggest their ideas, define, ideate, make some prototype and then evaluate within a short time.

Science and Engineering ideas and research results are also made into products and services through the design process. Moreover continuous design management can create new needs and values.

Therefore, comprehension and application of "design thinking" can be a necessary competence in Science Education.

At DGIST, we aim to understand the basic knowledge about design thinking and cultivate their abilities such as Observation and Empathy ability, Creative thinking ability, Expression and Presentation ability through the Design thinking class. Design thinking class looks difficult for freshmen in the beginning because they don't have any experiences anywhere yet. However, as they proceeded with the project, the participants in the first semester began to understand why design is needed, what the design role is, and gradually discovered their own creativity potential and expressive power for each area. Moreover, I have observed that their abilities improved in this class.

Hence, I would like to show how the students' three abilities changed when they used or applied the process of design thinking and student survey.

**Keywords :** Design thinking, Design Competence, Observation and Empathy ability, Creative thinking ability, Expression and Presentation ability



# The impact of cluster's open innovation types on RIS productivity: Case study of US pharmaceutical companies

Hongbum Kim

Eungdo Kim(Corr.)

*Assistant Professor, Department of Health Science Business Convergence, College of Medicine, Chungbuk National University, Republic of Korea*

## Abstract

### Purpose/ Research Question:

In order to have better efficiency in R&D, which has high risk, pharmaceutical companies are using various strategies. Among them, the open innovation strategy, in which they share core techniques with other companies, is being used in various ways. Thus, the regional innovation system (RIS) is critical as a government policy to foster pharmaceutical companies by establishing an efficient ecosystem for organically collaborating within the cluster. The cluster itself would have the characterized innovation type across the RIS development stage.

In the United States, there are ten representative pharmaceutical clusters. This study examines the firm's open innovation type change according to the RIS development stage of clusters and analyzes the effect of this open innovation type change on cluster productivity.

First, the study examines the open innovation type at each stage, dividing the 2001-2016 period of the US pharmaceutical cluster into the evolutionary stages of the RIS as open innovation types are divided into firm level and cluster level. The open innovation types are inbound/outbound/coupled. Second, firm level and cluster level productivity is calculated by SFA and Meta-frontier analysis. Third, this study examines how open innovation types affect cluster productivity and firm productivity through tobit analysis

**Key Literature Reviews:** The emergence of the regional innovation policy is a result of more than 40 years and is now attracting attention as an innovation in economic development (McCann & Ortega-Argiles, 2013; Yun et al., 2016, Yun et al., 2015, Kim & Kim, 2018).

# The efficient collaboration strategy of US Pharmaceutical Companies in regional innovation system

**Eungdo Kim(Corr.)**

*Assistant Professor, Department of Health Science Business Convergence, College of Medicine, Chungbuk National University, Republic of Korea*

## **Abstract**

**Purpose/ Research Question:** The regional innovation system (RIS) is critical as a government policy to foster companies by establishing an efficient ecosystem for organically collaborating within the cluster. In Western countries, some renowned regional innovation systems are generated spontaneously by industries themselves, e.g. Silicon Valley and Route 128 in the United States, and Cambridge in United Kingdom (Su & Chen, 2015). Traditionally, pharmaceutical industry is considered as a system or network (McKelvey & Orsenigo, 2001). The most representative pharmaceutical clusters in the United States are the California cluster and the Boston cluster.

Quantitative analysis of the factors that make up this performance based on the deal information was little, even though studies have tried to measure the performance of RIS (Lopes et al., 2018). Since the pharmaceutical industry is a patent-based industry, it has a high R & D proportion for technology development. A sectoral system has a specific knowledge base, technologies, inputs and demand. Agents are individuals and organizations at various levels of aggregation. They interact through processes of communication, exchange, co-operation, competition and command, and these interactions are shaped by institutions (Malerba, 2002). As Hu & Hung, 2014 analyzes pharmaceutical company in the perspective of sectoral system of innovation, this study tries to suggest the efficient policy for the R & D cooperation at each RIS stages.

The purpose of this study is to examine how two clusters collaboration is changes depending on RIS stages, and how this change in collaboration affects the productivity of two clusters. First, productivity is calculated by SFA and Meta-frontier analysis for each company and cluster.



# The impact of social capital on US pharmaceutical innovation cluster performance

**Hongbum Kim**

*Senior Researcher, Korea Institute of Industrial Technology, Republic of Korea;*

**Eungdo Kim(Corr.)**

*Assistant Professor, Department of Health Science Business Convergence, College of Medicine, Chungbuk National University, Republic of Korea*

## **Abstract**

### **Purpose/ Research Question:**

As a successful regional innovation leads regional economic growth, the studies have been conducted to identify the hospitable environment for supporting the innovation. Since entrepreneurial culture is important in promoting regional economic success (Hoselitz 1957), efforts have been made to formally model the role of entrepreneurs (Lucas 1978; Kirzner, 1997). Economists have been studying the effects of entrepreneurship rather than measuring entrepreneurship, and social psychologists have studied the origin of entrepreneurship. However, there is a problem that entrepreneurial culture is difficult to measure when conducting an empirical study. In order to measure entrepreneurship, not only the social psychological literature should be approached (Cromie, 2000) but also the effect of entrepreneurship should be approached based on an economic growth literature (Barro, 1991; Yun et al., 2016; Yun, 2015).

The regional innovation system (RIS) strength is overcoming the limitations of a single firm and emphasizing the advantages of spatial proximity by supporting to establish the ecosystem for collaboration. Social capital (SC), which is based on the social trust, activates regional economic development (Hamidi et al., 2018; Pihkala et al., 2007). SC is usually measured based on the personal perceived survey so that SC was measured as one-way trust. However, social capital can maximize the impact as two-way. Collaboration represents two-way trust. In this study, collaboration intensity is a proxy for SC.

The purpose of this study is to identify the entrepreneurial culture and SC that activates regional development.



# **A study on the utilization strategies for women science and technology human resources in a regional government**

**Saimi Woo**

*Senior Researcher, Busan Institute of S&T Evaluation and Planning, Republic of Korea*

**Junwon Chae**

*Team Chief, Busan Institute of S&T Evaluation and Planning, Republic of Korea*



# Creation of Smart Little People Models and Their Applications for Creative Problem Solving

**YoungTae Kim**

*Professor, Department of Mechanical System Engineering, Kumoh National Institute of Technology, Korea*

**Young Bae Chang (Corr)**

*Professor and Head, Division of Engineering Technology, Oklahoma State University, USA*

**HaeJo Park**

*Professor, Department of Mechanical System Engineering, Korea Polytech University, Korea*

**DeokSu Kim**

*CEO, Remagine Co., Ltd, Korea*

## Abstract

This paper reviews the concept and applications of Smart Little People (SLP) modeling and presents efficient ways of creating SLP models. SLP modeling is a powerful tool for inventive design or problem solving, but hand-drawing a large number of Smart Little People is a time-consuming process. It is demonstrated in this paper that multiple groups of Smart Little People can be efficiently created with a computer program.

Beginning the mid 1940s, a Soviet inventor Genrich Altshuller (1926-1998) and his associates developed TRIZ ("Theory of the Resolution of Invention-Related Tasks" in Russian) which has been used to find inventive solutions to a variety of problems. A core concept of TRIZ is resolving contradicting requirements. Various concepts or tools were developed and evolved including 40 Principles, a Contradiction Matrix, Physical Contradictions, SuField Analysis (Substance-Field Analysis), SIT (Systematic Inventive Thinking), USIT (Unified Structured Inventive Thinking), and ARIZ ("Algorithm for Inventive Problem Solving" in Russian).

One of the powerful tools of ARIZ is Smart Little People (SLP) modeling which was developed by Altshuller. In this method, a portion of the system that has an issue to be resolved is replaced by one or more groups of Smart Little People who are able to think, make decisions, and perform various tasks. For example, solid and liquid objects may be replaced by different groups of Smart Little People who have different characteristics corresponding to the differences between different phases (solid and liquid) of material.

## Customer orientations of service robots in restaurants

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### **Abstract**

**Purpose/ Research Question:** Robotics, artificial intelligence and service automation (RAISA) find their spaces in the tourism sector and its related businesses. This sector offers wide opportunities for the application of smart and artificial intelligence since the new rules of the game (i.e., customization, experiential vision, new way of commodification, friendly technology customers) impose the adoption and the implementation of highly dynamic and interactive technological solutions. The indispensable overlapping perspective between demand and supply leads to the analysis of the behavioral dynamics regarding the use of RAISA also called as self-service technologies.

Particularly, this paper aims to explore important aspects that connect RAISA with customer perceptions and attitudes within the restaurant sector.

**Key Literature Reviews (About 3~5 papers):** A critical issue, nowadays, is the need for innovation in restaurants (Ottenbacher and Harrington, 2009; Nam et al, 2018). These are conceived to belong to a traditional sector, for their anchoring to the local traditions, in terms of: 1. food's origins of production (the raw materials of the territory that express the local identity); 2. the typical human touch of the provided service, which is characterized by the interaction between human resources and customers; 3. the sedimented knowledge of some chefs that combine local food with the recipes passed on by ancestors.



# Does government support promote open innovation in SMEs?

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Recognizing that SMEs are the backbone of the economy, governments around the world have been actively taking initiatives to provide various support programs for SMEs that aims to enhance their internal technological capabilities. At the same time, open innovation is increasingly becoming important for SMEs because these practices allow growth-oriented SMEs to better access resources beyond firm boundaries at a lower cost (Chesbrough, 2003). Yet, there is a lack of understanding about the role or impact of government policies on SMEs' open innovation (Wynarczyk, Piperopoulos, & McAdam, 2013).

This study explores the impact of government support on SMEs' open innovation. Specifically, I suggest that government policies surrounding SMEs can be an important driver of whether these firms adapt open innovation practices. At the same time, the impact of government policies on SMEs' open innovation should be weaker when there is greater market uncertainty and when government regulations in the industry are more stringent.

Proposed hypotheses are empirically tested using a survey data collected from 284 SMEs from South Korea. By identifying seven different types of government programs that are aimed at enhancing SMEs' technological capabilities, empirical results suggest that SMEs that take advantage of governmental support programs are more likely to engage in open innovation initiatives. However, market uncertainty and governmental regulations weakens this relationship.

This paper provides meaningful theoretical and practical implications. First, the findings theoretically contribute to the literature by providing evidence that government policies do play a meaningful role in promoting open innovation in SMEs. Even if government support is not designed in ways that explicitly aims at SMEs' open innovation practices, the boost in internal technological capabilities seems to push SMEs to better engage in collaborations with external actors (e.g., competitors, universities) to develop new technologies or products. Second, the findings suggests that policymakers and managers should be aware that the positive role that public support plays in promoting open innovation in SMEs is not ubiquitous regardless of external contingencies in the industry.

# A study on effect of the obstacles to innovation to the outcome of technology innovation

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## **ABSTRACT**

In a fast-changing business environment, a firm's innovation ability to produce differentiated products or services becomes one of the most important sources of its competitive advantage. Firms have been searching various ideas from both within and outside of the enterprise boundaries for technology innovation. But, these activities are not always successful due to the lack of internal capacity and resource, structural problems. It is important for firms to confirm the obstacles to innovation because the impeding factors affecting innovation are multi-dimensional and have an impact on business management. Therefore, we address this issue by investigating the hampering innovation factors using KIS(Korean Innovation Survey) 2016, which were surveyed by STEPI(Science and Technology Policy Institute). The result shows that they faced other innovation barriers depending on obstacles. In particular, companies between large and small-sized businesses showed different results in funding problems.



# What Dynamic Managerial Capabilities Are Needed for Greater Strategic Alliance Performance in the IT Industry?

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## **Abstract**

### **Purpose/ Research Questions**

The aim of the paper is to provide an overview of dynamic managerial capabilities that are needed for greater single and portfolio alliance performance. The object of the research is IT companies providing software and hardware solutions in the United States. Unit of research is selection criteria using by the Board of Directors in the hiring process of strategic alliance directors. This paper aims to address the following research questions. What are the most important dynamic managerial capabilities employers seek when hiring a new director of strategic alliances? What are dynamic managerial capabilities needed for greater alliance performance in each phase of the alliance life cycle? Research questions were answered empirically by means of the contextual content analysis of job vacancies of strategic alliance director positions on the LinkedIn platform in 2018.

### **Key Literature Reviews**

Hiring right executives these days is like hitting a double moving target. How are organizations to judge the relevance of a candidate's managerial capabilities to the increasingly competitive global world? The sustainable competitive advantage of a firm may lie in the firm's ability to exploit its current competencies while simultaneously exploring new capabilities (Chen et al., 2013). Leadership in strategic management is also a key factor in enhancing innovation (Kim & Choi, 2018). Adner and Helfat (2003) introduced and defined dynamic managerial capabilities (DMC) as those "capabilities with which managers build, integrate, and reconfigure organizational resources and competences". They propose that DMC is rooted in several underlying factors that separately and in combination, influence managers' strategic and operational decisions: managerial human capital, managerial social capital and managerial cognition. Managerial human capital refers to skills learned that require some investment in education, training or learning more generally (Becker, 1964).

# Digital Maturity and Corporate Performance: Case of Baltic States

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## Abstract

The purpose of the paper is to conduct an analysis of digital maturity of Baltic public companies.

Digitalization is inevitable due to rapid development of technologies, every individual, business and government become a part of new digital era (Lee, M. et al., 2018; Kodama, F., 2018). For being able to survive in modern economy, companies and governments have to move towards digitalization applying innovative solutions. The digitalization processes accelerate development of all industries by making them connected, fast and controllable, also providing easy access to data and necessary information (Shim, S. O., Park, K., & Choi, S., 2018). As it was defined in the report "Measuring industry digitalization" the digitalization is the pervasive adoption of a wide variety of digital, real-time and networked technologies, products, and services that will enable people, companies, governments, and even machines to stay connected and communicate with one another, gathering, analyzing and exchanging massive amounts of information on all kinds of activities (Friedrich, Merle, Gröne, & Koster, 2011, pp. 5-6). The concept of Digital transformation recently became a popular term, the most detailed definition of this concept was proposed by D. Schallmo, C. A. Williams & L. Boardman gathering several definitions of other authors. The Digital transformation (DT) framework includes the networking of actors such as businesses and customers across all value-added chain segments and the application of new technologies. As such, DT requires skills that involve the extraction and exchange of data as well as the analysis and conversion of that data into actionable information. This information should be used to calculate and evaluate options, in order to enable decisions and/or initiate activities.



# The impact of service quality cognition gap on customer complaint behavior: Product involvement as the moderator

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## **Abstract**

### **Purpose/ Research Question:**

The study on the issue of consumer complaining behavior has become popular since the late 1970s. Previous studies have been focused on the classification of service error and determinants of consumer complaining behaviors. However, studies using the approach from the gap of service quality cognition to understand the pattern of consumer complaining behavior is limited. Therefore, the purpose of this study is to investigate the impact of service quality cognition gap on customer complaint behavior. Furthermore, we examine whether the degree of product involvement moderates the association between service quality cognition gap and customer complaint behavior.

### **Key Literature Reviews:**

#### 1. Consumer Complaining Behavior

A classic paper has noted that the complaining behavior of consumers is not merely influenced by the perceived satisfaction or dissatisfaction with a product or service, it also affected by other factors such as the disparity in consumer knowledge and expectation (Day & Landon, 1976).

#### 2. The gap of service quality cognition

Parasuraman, Zeithaml, and Berry (1985) proposed a framework to construct the gap between customer's expectation and actual perception of the service quality. This Parasuraman-Zeithaml-Berry (PZB) model included five dimensions: (1) not knowing what customers expect, (2) wrong service quality standards, (3) the service performance gap, (4) promises do not match actual delivery, and (5) the difference between customer perception and expectation.



# **A study for skin analysis via cloud service to construct innovation models and aboard using system dynamics**

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Skin analysis is an important service in the beauty sales industry chain.

With the advent of the cloud era, Skin analysis activities will also meet the trend of cloud, and technology will automatically manage skin records. This study explores how to quickly spread and popularize the service system in the market in the shortest time by means of dynamic thinking and business simulation software.

Analysis of cosmetics sales market in Taiwan

> Use the Business Model Canvas to present the operation mode of skin analysis activities of maintenance brand operators

> How to form a sustainable positive feedback loop is discussed by using the theory of system thinking and the concept of positive feedback loop of system base mode



# Characteristic Analysis of Pine Wilt Disease using Time Series Hyperspectral Aerial Imagery

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## **Abstract**

### **Purpose/ Research Question**

Purpose: This study aimed to use the strengths of hyperspectral aerial photographs to characterize time-series variation in pine wilt disease. It also intended to determine the optimal wavelength-band and the normal distribution vegetation index.

**Research Question:** At the early stage of damage from pine wilt disease, petechia of the dead trees occurs. It is therefore hard to determine the damaged district promptly or predict its spread accurately. Hyperspectral data, which involve hundreds of pieces of continuous spectral information, make it possible to detect changes in the properties of minute spectral reflection. This study extracted pine wilt disease at each time segment on the basis of the vegetation index of time series hyperspectral aerial imagery. In addition, the spatial distribution characteristics of the disease were analyzed on the basis of its time-series distribution. This study aimed to suggest usability of hyperspectral aerial imagery in detecting pine wilt disease and in investigating the characteristics of its spread.

# A Study on the Inequity Between the Housing Location and the Commuting Accessibility in the Socially Vulnerable Classes

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## **Abstract**

### **Purpose/ Research Question**

Purpose: The purpose of this study is to classify the households by age of the household owners, to calculate the commuting accessibility indicators for each household type, and to analyze the spatial equality between the residential location and the commuting accessibility by group.

Research Question: Commuting accessibility is closely related to quality of life as an indicator of the convenience of commuting activity that could be essential to each household's life. Therefore, households regard commuting accessibility as an important indicator in determining where they live. This study aims to classify the households using demographic factors and determine which types of household have weak commuting access, and to identify whether there is imbalance among the household types.

### **Key Literature Reviews (About 3~5 papers)**

A Study on Smart City: 'Smart City' is drawing attention in order to improve the problem of inefficiency in urban areas and to maintain sustainable urban management. Smart City is a new urban strategy that efficiently utilizes existing infrastructure to solve urban problems at low cost and pursues sustainable urban development through city management. (Lara et al., 2016; Trindade et al., 2017; Chang et al., 2018)

A Study on calculation of accessibility: Hansen (1959) proposed a method of calculating the degree of access by using the inter-regional toll time and the number of jobs distributed in each region as variables. This study used Hansen (1959)'s accessibility estimation methodology to calculate the commute access for each region. Many researches have been conducted on the potential of the residence in the research field related to the determination of the location of the residence. (Yi & Lee, 2014; Lee & Yi, 2015)



# The mechanism, progress and enlightenment of National Network for Manufacturing Innovation: What can we learn from Manufacturing USA?

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## **Purpose/ Research Question:**

Manufacturing industry is an important embodiment of a country's comprehensive national strength. With the advent of a new round of industrial revolution, world powers have placed manufacturing industry in a crucial position. After the financial crisis, Europe, the United States and other developed countries have put forward the strategy of "re-industrialization" to cultivate and develop advanced manufacturing industry to seize the commanding heights of a new round of science and technology. To this end, the United States has launched a series of measures to pool the resources of the federal government, academia and the business community to build an advanced manufacturing innovation network to ensure that a new round of industrial revolution takes place in the United States.

In March 2012, the US government announced the launch of the national network for manufacturing innovation (NNMI) plan, in the information network, intelligent manufacturing, new energy and new materials in key areas such as construction of manufacturing innovation research institute (IMIs), forming a national manufacturing industry the innovation of political participation of enterprises in the field of ecological system, so as to promote the advanced manufacturing technology to productivity.

In September 2016, NNMI was officially renamed "Manufacturing USA". According to its website, the United States has established 14 national manufacturing innovation institutes so far.

The key questions of this paper are:

What was the starting point of the us government's policy? What's the point?

Progress and results in recent years, and plans for the future.

NNMI's evaluation and comments by industry, academia and government.

What are the practices and practices of the made in China 2025 innovation center?

# A Study on the Improvement of Operational Efficiency of Public R&D Management Agencies in South Korea

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## **Abstract**

Public R&D management agencies have been taking on key roles in the national R&D ecosystem. The purpose of this study is to suggest ways to improve the operational efficiency of public R&D management agencies based on an analysis of their current status.

We approached this study from a life-cycle perspective as it applies to plan–management–evaluation of R&D. Data collection sources included documents, as well as surveys and interviews with staff members in the agencies responsible for national R&D management. Based on the results of the analysis, we present suggestions for improvement in three areas: (a) unification of R&D planning and evaluation of individual ministries; (b) establishment of a pan-ministerial management system for public R&D management agencies; (c) improvement and development of public R&D agencies' expertise and management services.

Finally, we discuss possible improvements and the limits of this study.

**Purpose/ Research Question:** As we face the fourth industrial revolution, there has been a growing awareness of the function and role of public R&D management agencies (hereinafter R&D management agencies) as the foundation for innovative growth and R&D efficiency. R&D management agencies is no exaggeration to say that the role of these institutions is directly related to the efficiency of government R&D, since these entities are implementing government R&D budgets at on-site R&D facilities.



# Identifying Key Success Factors for Scale-up of Regional SMEs : A Case of Ecopro

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## **Abstract**

### **Purpose/ Research Question:**

The world economy has been confronting low economic growth for several years (Park, 2017) and industrial trends are being changed very quickly (Park, Lee, Moon, and Kwon, 2016).

Cooke (2017) argued that South Korea's economy also has had a slowdown in growth. Thus, it is very important for firms to find the opportunities of growth. Especially, SMEs, Small and Medium Sized Enterprises, with start-ups cannot help thinking they must find success factors for growth (scale-up).

Korean government supports a large number of money and favorable policies to SMEs in order to boost the economy.

Nevertheless, there is few SMEs, that achieved great growth, in South Korea; however, a lot of SMEs are trying to achieve the great growth and become an unicorn company.

Scale-up SMEs and unicorns are contributing the economic growth of South Korea.

In spite of this importance, few study has carried out.

### **Purpose**

This study aims to explore success factors for scale-up of SMEs by carrying out a case study, based on Ecopro, an Unicorn in South Korea.

### **Research Question:**

What is scale-up of SMEs and constructs of the scale up?

What are success factors for scale-up of SMEs?

# Collaborative Management and Competing Perspectives of Various Stakeholders for DMZ Policy Process

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## **Abstract**

This study aims to examine the association between collaborative public management and DMZ policy process using the survey data from government officials of Goseong County, Gangwon Province of ROK, research institutes and related international organizations. Open innovation is a concept introduced by H. Chesbrough in his book to refer to as “a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology” (Chesbrough, 2006). However, when applied in public sector, it could also refer to an open policy process including agenda setting, implementation and feedback to achieve policy goals more practically and effectively. Since DMZ policy process in Korean peninsula should be approached more internationally, there would be various stakeholders, such as central and local government, domestic and international NGOs and even neighboring countries, to be considered. More precisely, this study would like to utilize a framework of collaborative public management. Collaborative public management refers to a concept that describes the process of facilitating and operating in multi-organizational arrangements in order to remedy problems that cannot be solved – or solved easily – by single organizations (McGuire, 2006).



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# Open Innovation, and Creativity: Bureaucratic Pathologies

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**Kwangho Jung**

*Seoul National University*

**Hyue-Su Ha**

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## **Abstract**

This study explores the possibilities and limitations of open innovation and creativity in public bureaucracies. Basically, public bureaucracy is perceived as having low innovation and creativity. Particularly because of existing practices and organizational culture, bureaucrats are expected to be negatively interested in introducing new ideas.

In this environment, public bureaucracy's interest and enthusiasm for open innovation will also be low. This study examines how open innovation and creativity are related to public service bureaucracy and the bureaucratic characteristics related to it. In particular, bureaucrats have a great desire for new knowledge and ideas, but innovation does not take place due to the many bureaucratic constraints in adopting and implementing them. This study examines how bureaucrats view open innovation and how to promote such open innovation. To do this, we will collect surveys and interview data for public officials of government departments in South Korea and attempts to conduct both qualitative and quantitative methods.

**Keywords: Open Innovation, Public Bureaucracy, Bureau Pathologies, and Creativity**



# The effects of acquirer's capability and dyadic knowledge characteristics on the technological innovation performance of acquirer in M&A: A case of biopharmaceutical industry

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## **Extended Abstract**

### **Purpose/ Research Question:**

In recent years, technological mergers and acquisitions (hereafter M&As) have become important strategic tools for companies to access and utilize new external knowledge (Azan & Huber Sutter, 2010). Scholars have examined why firms choose M&A as open innovation or growth strategies. Companies use them to obtain complementary resources and capabilities, or to resolve uncertainties from transactions with other companies (Shin, Kim, & Jeong, 2018). Through M&A, acquirers can make their resources and capabilities more productive, and expand their technology depth or breadth to the extent that their absorption capacity allows (Tani, 2018). In particular, there have been many studies to predict whether open innovation through M&A will give good rewards because of the high risks in R&D for technological innovation in science-based industries such as biopharmaceutical industry (Hwang et al. 2017). Previous M&A studies have focused on the impact of the absorptive capability and M&A management capacity on the acquirer's performance from the viewpoint of the acquirer, or the relationship of knowledge bases of two firms between the acquirer and the target (similarity, digestibility, etc.) from the dyadic perspectives. However, despite the importance of these two perspectives, there are a few studies from a mixed point of view.



# Evolution of open innovation by value-based network perspective: The case of Korean smart home industry

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## Extended Abstract

### Purpose/ Research Question:

The open innovation phenomenon has become much more widespread for firm innovation and growth within the high tech industry. Open innovation is defined as 'the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation' (Chesbrough et al, 2006). Open innovation is often constrained by intellectual property rights and it may function only when a firm deliberately waives some of their intellectual property rights in terms of their network activities (Henkel et al., 2014; Leydesdorff and Ivanova 2016). Open innovation may function according to the openness strategy (Chesbrough, 2003, 2006, 2007, Enkel et al., 2009; Baldwin, 2011; Alexy et al., 2013a; 2013b). Moreover, open innovation has the characteristics of evolutionary dynamics in an ongoing way (Yon et al, 2016; Yun, 2015). It is quite possible that the sharing of values beyond formal network activities (i.e., face-to-face,) in open innovation studies can act to facilitate the advent of information and communications technology (hereafter ICT) technology.

Some of the most distinctive features of ICT have led to a digital convergence through open innovation activities (Frasman, 2000; Pyka, 2017). Within the smart society that results from the utilization of ICT, there are changes in the way that people live, work and play. A smart society encompasses a huge range of subjects. Most importantly, a smart society is a society linked by connected devices (e.g., home appliance, transport, healthcare). Across all the features of a smart society (i.e. digital network devices, horizontal), the emergence of a smart society is dependent on the robustness of the open innovation ecosystem. Each actor in the innovation ecosystem (i.e. firm, university, government, user) will have to work together to co-create a new value in the smart society.

# Developing evaluation framework for selecting optimal medical devices

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## **Abstract**

### **Purpose/ Research Question**

The medical device industry is an industry directly or indirectly related to human life and public health. It is a field of health industry whose importance is increasing in preparation for the 21st century. In addition, as the demand for high quality medical devices increases and the development of high-tech medical devices due to technological development accelerates, it is recognized as a high-value-added industry. As the aging population of Korea and developing countries including developed countries, the importance of equipment development and industry is also becoming more apparent. (Jung, Y. A., & Kim, Y. J., 2018) However, the various variables that exist throughout the medical device industry and other aspects of stakeholders' medical devices are becoming a danger to the development of the medical device industry. Stakeholders are not evaluating the value of medical devices because they are evaluating medical devices using different evaluation methods, with different purposes and uses for evaluating medical devices. In addition, different evaluation criteria may not only increase the period of entry of medical devices into the market, but also reduce objectivity and efficiency of medical devices, which may hinder industrial development. Therefore, in order for the industry to develop, the evaluation framework that evaluates the subject medical device objectively and comprehensively should be able to accommodate the viewpoint of stakeholders and take into account various variables.



# The AI integrated AR training mode of Semiconductor industry- by hotel conference and exhibition

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## Abstract

### Purpose/ Research Question

Semiconductor suppliers apply AI integrated AR training mode to simulate what is key success factors at hotel conference and exhibition course.

What is the key success factors of user autonomously accept AI integrated AR training mode. The AI integrated AR training mode if positively influence to user satisfaction.

The Contingency Theory was proposed by Fiedler, F.E. in 1964. Based on the leader's personality features and behaviors, it concluded that the organizational performance is subject to 3 situational variables: organizational environment, task structure and the leader's power and authority.

It is commonplace to assert that organizations are complex and that they change continuously over time. The contingency theory is still considered as a major theoretical foundation for situating the organization (Aubry, Monique, et al, 2018)

The TPB was proposed by Ajzen, I. (1991) as an extension of the theory of reasoned action (TRA; Fishbein and Ajzen 1975). By adding Perceived Behavioral Control as the third construct in the TRA model, the TPB explains the intention to perform the behavior. Intention is driven by how hard people are willing to try to perform a behavior and it has been shown to be influenced by attitude, subjective norms and perceived control of behavior.

Attitudes, subjective norms and perceived behavioural control significantly predicted the teachers' intention towards teaching dyslexic pupils, thus confirming the applicability of the selected TPB mode (Stampoltzis et al, 2018).

## Open Innovation Culture and Its' Cycle

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### Introduction

Open innovation has become one of the hottest topics in innovation management and has been found can provide the firms commercial success(Brettel, Cleven, & Management, 2011). A search in Google Scholar on open innovation provides over 2 million hits, Henry Chesbrough's 2003 book has gathered more than 1,800 citations in just seven years (Google Scholar, July 2010), and surprisingly a wide range of disciplines, including economics, psychology, sociology, and even cultural anthropology(Von KROGh & Spaeth, 2007) have shown interest in it. One of its most often used definition is: 'the use of purposive inflows and out flows of knowledge to accelerate internal innovation, and to expand the markets for external use of innovation, respectively'(Chesbrough, Crowther, & Management, 2006).

As an intangible asset of firms, corporate culture has been acknowledged as an important component of organizational success(Irani, Beskese, & Love, 2004)(Yusr., 2016). Innovation culture refers to the shared common values, beliefs and assumptions of organizational members that could facilitate the innovation process. When an organizational culture or climate encourages the employees' innovation capacity, tolerates risk, and supports personal growth and development(Menzel, Aaltio, & Ulijn, 2007) the organizational culture may be labelled as an 'innovation culture'(Martín-de Castro, Delgado-Verde, Navas-López, Cruz-González, & Change, 2013).

Brettel, Cleven et al.(2011) also explored a research on a firm's innovation culture affects on its openness to collaborate with external partners which can form an open innovation culture- and for that behavior to influence the firm's new product development performance. Thus, this study opts to explore what kind of culture motivate open innovation and the concept of open innovation culture.



# Basic Income with high open innovation dynamics The way to entrepreneurial state

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## Abstracts

Right now, world economy is approaching to near zero in the growth rate. Government should move from market failure treatment through system failure treatment, and to entrepreneurial state to motivate Schumpeterian dynamics of open innovation.

we want to answer the following research question at this study.

“How can the government with useful policies conquer the growth limits of economy which were from inequality or the controlled economy by big businesses?”

We did literature reviews to set up concept building of causal loop model of basic income with open innovation dynamics. Second, we built up causal loop model which includes basic income, and all factors of open innovation dynamics, Third, we proved our causal loop model through meta-analysis of basic income global cases.

Reflective basic income with permission-less open innovation, capital fluidity, and sharing economy, and platform tax can motivate open innovation dynamics, and arrive at the way to entrepreneurial state to conquer the growth limits of capitalism according to our research.

## Keywords

Basic Income, Open Innovation dynamics, permission-less open innovation, capital fluidity, sharing economy

# Historical dynamics of Alibaba Open Innovation

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## Abstract

Open innovation, such as that associated with an open business model, leads to exaggerated complexity, referring to the transaction cost in addition to emergence and its lock-in. Within a short period, Alibaba has become the world's largest e-commerce company, with numerous open innovation business models. How could Alibaba become a global company in China, where the internet is not overly developed, in such a short period? Alibaba has overcome the cost of complexity of open innovation—the force that breaks down a company—through the dynamic expansion of open innovation culture which can come down the complexity of open innovation and by an expansion of the open business model feedback loop platform which can control the centrifugal force of open innovation new business sectors. This study analyses the emergence of Alibaba's dynamic open innovation process, a process of continuously strengthening open innovation culture, and assesses the expanded open business model feedback loop platform that restricts the complexity generated during the open innovation process.

**Keywords:** Alibaba; open innovation; complexity, open innovation culture; open business model feedback loop, platform



# Serial Entrepreneurs form Medison Open Innovation

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## Abstract

With the advent of the Fourth Industrial Revolution, the role of entrepreneurs has become more crucial than before. Thus, this study suggests open innovation model which can promote serial entrepreneurs by answering the following question: How does the serial entrepreneur in open innovation conditions continuously identify business opportunities? This research answers this question through in-depth analysis of Samsung Medison from 1985 to 2016. Samsung Medison is not only a representative Korean medical device company, but it is also the representative example of serial entrepreneurship in Korea. First, we examine the diverse and actively implemented open innovation strategies used by Medison before its merger with Samsung. Second, we consider how the start-ups of spin-outs, venture investments and joint venture companies, which are open innovation channels, emerged through the open innovation of Medison. Third, we analyze companies founded by people who had previously worked at Medison. Fourth, we investigate how companies were established from Medison's open innovation channel start-ups. Finally, we suggest a suitable open innovation model which can promote serial entrepreneurs.

**Keywords:** Open innovation; serial entrepreneur; spin-off; venture investment; joint venture



# Internal Marketization of Corporate Organization in the 4th Industrial Revolution

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## Abstract

### **Purpose/ Research Question:**

As the national economy entered into the complex system, the planned economy system had failed. The market economy system is the typical complex adaptive system which has successfully adapted to the complex change of the economic systems. For the businesses to survive in the complex environment such as the 4th Industrial Revolution, the enterprises should understand the national level principles of the market economy through the corporation's viewpoint.

### **Key Literature Reviews (About 3~5 papers):**

The system which can adapt to the complicated, complex system through complexity is called the Complex Adaptive System, or the CAS. According to Yoon, divides the classification of the characteristics of the Complex Adaptive System into more than five constituents, which are 1) composed by the agents, 2) controlled by the distributed processing management model, 3) open system, 4) self-organized critical phenomenon, 5) emergent evolutive self-organization and others [1]. The market economy system is the primary example for the complex adaptive system and the economic system which adjusted itself to complex transition. The core agent of the complex adaptive system called the market economy is the corporation. Within the economic system, the corporations emerge and self-organize through nonlinear and open interaction between the various enterprises. Analogous to the businesses as core elements inside the market system, the intrapreneurs of each corporation are the main agents inside the corporate level.

In economics, market failure is a situation in which the allocation and the distribution of goods and services by the free market is not efficient. Mainly the market failure is due to the collapse of the free market's functions. In this context, Kim categorizes the market failure into two cases as the primordial market failure and the situational market failure [2].



# A Study on the Effect of Using Innovation Methodology on Employee's Innovation DNA Development and Corporate Performance

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## Abstract

### **Purpose/ Research Question:**

This study examined the positive effects of Innovation Methodology (6-sigma and Design Thinking) on the development of employees' innovation DNA, innovation performance, and business performance, and also verified the effects of success factors of 6-sigma and characteristics of Design Thinking on the business performance with the mediation of employee's innovation DNA.

### **Key Literature Reviews (About 3~5 papers):**

Dyer, J., H., Gregersen, H. B., and Christensen, C. M. (2011), 『The innovator's DNA: Mastering the five skills of disruptive innovators』, Harvard Business School Press Books.

Antony, J. and Banuelas, R. (2002), 「Critical success factors for the successful implementation of Six-Sigma projects in organization」, 『The TQM Magazine』, 14(2), 92-99.

Brown, T. (2008). 「Design thinking」, 『Harvard Business Review』, June. 2008. Harvard Business School Publishing Corporation.

### **Design/ Methodology/ Approach:**

We described literature reviews about success factors of 6-sigma and Design Thinking and innovation DNA. We suggested four hypotheses that were drawn from the previous researches. To verify these hypotheses, collected the data and were tested by validity, reliability, correlation and structural equation model analysis.

# A Study on Profile and Investment Decision-making Factors of Informal Investors for Start-up Investment

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## Abstract

### Purpose/ Research Question:

This study analyzes the characteristics of unofficial investors in the founding period, secondly, the factors of investment decision making. Third, the empirical analysis of the expected payback period and the recovery method of the investor 's start - up period. This study investigates whether there is a mediating effect on the investment intention of the founder.

The purpose of the research is detailed as follows. First, we examine characteristics of informal investors such as gender, age, educational background, occupation, size of assets, investment scale intended for investment, and experience in investing in entrepreneurship or self-employment. Second, we analyze the characteristics of informal investors who have invested in entrepreneurship and the characteristics of informal investors who have invested in entrepreneurship. Third, we analyze the differences in investment decision factors of informal investors who have invested in entrepreneurship. Fourth, analyze the differences in investment decision factors of informal investors who have invested in self - employed entrepreneurship. Fifth, we examine whether the characteristics of entrepreneurship, government support factors, and financial characteristics directly affect investment profitability.

Sixth, we examine whether the characteristics of investment entrepreneurship, government support factors, and financial characteristics have a direct impact on the possibility of cashing. Seventh, we examine whether the possibility of cashing in the investment of founding period affects the investment intention of informal investors, and whether investment incentive for business start-up affects investment intentions to start up self-employment.

Eighth, we examine whether the investment profitability of the investment period on the investment period affects the investment intention of the informal investors, and the investment intention to the entrepreneurial establishment and the investment intention to the self-employment start-up respectively.



# A Study on the Customer Churning Behavior according to the Market Maturity of Innovative Convergence Service : Focusing on the IPTV service.

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## Abstract

### Purpose/ Research Question

In this study, we analyzed the factors influencing the customer withdrawal behavior of IPTV service. We divide IPTV service users into mainstream and early maturity markets to see how they differ in consumer behavior and customer churning. This study suggests key success factors that can be applied to high-tech based innovation convergence services.

### Key Literature Reviews (About 3~5 papers)

Previous studies on IPTV contents have been reviewed in terms of content usage, content quality, and content optimization (Blasco-Arcas et al., 2012; Lin et al., 2014).

Research on switching barriers has been analyzed to determine the impact on customer loyalty in relation to customer satisfaction (Kim, K. H., Chun, J. h., 2015; Zhang et al., 2014).

VoC has been emphasized as a way to understand customer complaints, and studies on VoC have mainly analyzed the impact on customer loyalty and customer satisfaction. (Choi, H., Kim, Y., and Kim, J., 2010; Ministry of Science and ICT, 2018).

Customer deviations can be divided into studies that are interested in the causes of deviations and research that suggests or predicts customer deviations (Hejazinia and Kazemi, 2014; Kisioglu and Topcu, 2011; Oghojafor et al., 2012; Wong, 2011; Ministry of Science and ICT, 2018).

**Design/ Methodology/ Approach:** Based on the review of current literature, a research model is introduced to depict the effects of select independent variables on customer churning behaviour.

The data used in this study consisted of the web log of IPTV service users for the final 3,340 users.

# A Study on the Impact of the Innovation Capabilities of Service Firms on the Performance in the Global market: Focusing on the Interaction Effect of Service R&D

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**Minseo Kim**

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**Jun-Young An**

## Abstract

### Purpose/ Research Question:

The research on the service industry has been carried out in earnest since the second half of 2000. However, the initial research has been focused on supporting the growth of the manufacturing industry (Howells, 2000, Korea Institute for Industrial Economics and Trade, 2008). Recently, the service industry is regarded as a new strategic industry that will lead the future industry, and various research fields such as service innovation, service R & D, growth factor, productivity. However, there is still a lack of research on the relationship between service company innovation and business growth and development. In the fourth industrial revolution and economic service, it is necessary to study focused on the service companies in the international economy. Furthermore, analyzing service companies' ability to advance into the global market can be used as a basis for finding alternatives to overcome the downturn in global exports facing the Korean economy. Therefore, it is considered that the comparative study on the competence and the performance of the service companies should be proceeded by benchmarking the research of the enterprise capacity in the manufacturing enterprises which has been active for the past 20 years.

The purpose of this study is to investigate the relationship between innovation capability and global performance of service firms in Korea, and to find out that R&D, which has been emphasized as a key factor that attracts growth of manufacturing industry, results of this study are summarized as follows.



# Estimating Technology Lifetime based on Generalized Probabilistic Model

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## Abstract

For efficient R&D management, evaluating economic value of patents is increasingly in need. In evaluating the economic value of patents, technology lifetime is one of the important factors to be estimated. There are some existing approaches to estimate the technology lifetime using patent citation data. However, existing methods have a limitation in that they assume the probability distribution function of the technology life have zero mode, which means that patents are unlikely to be cited at all. To tackle this issue, we propose a more generalized method to estimate the technology lifetime of a patent. We have applied the proposed methodology to US patent data for four communications areas.

Purpose/ Research Question

Q1. Is it correct to assume that patents are unlikely to be cited ?

Q2. How do we estimate the technology lifetime in more general way?

## Key Literature Reviews

Pareto/NBD model had been proposed to estimate customer lifetime value in probabilistic way (Schmittlein et al, 1987).

Lee et. al (2012) proposed to employ Pareto/NBD model in assessing the future impact of a patent by predicting the citation counts of the patent.

Yoo et. al (2015) extended Pareto/NBD model to quantitatively estimate the technology lifetime based on patent citation data.

Bemmaor et al.(2012) showed that Pareto/NBD model has a mode at time zero that implies a customer is most likely to churn right after the initial transaction.

Flexible customer lifetime model (i.e. G/G/NBD) has been proposed to estimate customer lifetime value.

# Analysis of Factors affecting Licensing Deal-making strategies for Biotech Firms - Focused on the stage of new drug development

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## Abstract

### Purpose/ Research Question

The pharmaceutical industry is an area where the various open innovation strategies are activated than any other industries due to its high R&D cost, long development period, and complex knowledge required for development (E.Petrova, 2014; Shin et al., 2018). In spite of the growing importance of the licensing activities, the hurdle for the firms is that licensing out their technology as strategies of outbound innovation is quite challenging. The attrition rate between the decision to out-license a technology and the actual conclusion of the deal is nearly below 40% (Gambardella et al.2007). This results from the complexities of the activities attributed to the information asymmetry problems.

Under this circumstance, the 'Inventive Capacity' and 'Desorptive Capacity' as dynamic capabilities of firms have been the main determinants of the out-licensing propensity (Hu et al., 2015; Shin et al., 2018). Inventive Capacity refers to the firms' capabilities to generate new knowledge inside the firms. This capacity is related to the prestige, noticeability, and visibility of the licensors to the potential licensees. The Desorptive Capacity is related to the firms' knowledge exploitation capabilities (Lichtenthaler et al., 2009; Shin et al., 2018). The capacities which firms should build up under the open innovation systems are systematically suggested by Lichtenthaler and Lichtenthaler(2009) which is called 'Knowledge Management Capacities' framework. This mainstream does not include the knowledge retention capability which is called 'Connective Capacity.'

In accordance with this trend, this research particularly focuses on the number of out-licensing decisions as a means of outbound innovation strategies by adopting the Knowledge Management Capacities framework (Lichtenthaler et al., 2009) based on the dynamic capabilities.



## Research productivity in Korea: Gender matters?

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### Abstract

Gender difference has long been a contentious issue in academia. Although it is difficult to argue that the gender difference prevails in all social dimensions, it is apparent in many parts of the societies. But more dangerous aspect is that people tend to over-generalize the perception even before acknowledging whether the gender difference does exist or not, and jump right into the debate about the causes whether innate or structural ones. Because policy measures differ greatly depending on the nature of causes, examination of the plausible causes is critical. If it is the institutional factor which exacerbates the gender difference, appropriate policy interventions should be an anti-discrimination type. If gender itself accounts for the difference, however, anti-discrimination policy measure will face the type III error and produce waste of resources.

This paper explores whether there is a gender gap in academic performance measured by research productivity of university professors in Korea. The rationale is clear enough; despite continuous encouragement of hiring female professors by government policies, the ratio of female professors is still significantly low. Usual suspect for this is the implicit preference against female based on the suspicion about the research abilities. But the empirical findings on this issue are quite inconsistent in the previous studies and even rare in Korea. Thus, it is reasonable to examine the issue using better measures and comprehensive data.

Two things should be mentioned at the outset for the subject of this study. First, compared with the previous studies focused on the fields of the Natural Sciences and Engineering, this paper turns its attention to the Humanities and Social Sciences for balanced understanding among the disciplines. In spite of its relatively smaller size in every aspects compared with Natural Sciences and Engineering, the number of faculties and the amount of research funding in the Humanities and Social Sciences have grown in recent years and, at the same time, many attention have been paid to better quality of research performance.



## **A study on technology commercialization policy : beyond Death Valley in R&D**

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### **Abstract**

Why cannot the developed research technologies reach technology commercialization beyond the valley of death despite the bold investment in the R & D sector?

The Republic of Korea has devoted enormous efforts to R&D in the industrial field, which has contributed greatly to national growth. The national R&D expenditure has been steadily rising, 59.3 trillion won in 2013, 63.7 in 2014, and 65.9 in 2015. Furthermore, in 2016, it rose to 69.4 trillion won, we ranked in fifth place in terms of R&D to-GDP ratio. However, according to the data released by the Korea Economic Research Institute in 2015, although the success rate of the mid-term R&D project was as high as 96%, the success rate of commercialization, which is the next step of R & D, was only 47%. In other words, more than half of the technologies that have succeeded in R&D fail to commercialize the technology, failing to cross the Death Valley, which lies between technology development and commercialization.

This paper aims to examine empirically the factors that influence the success of technology commercialization, the next stage of Research and Development (R&D). The dependent variables of this study are the success of the technology commercialization, and the independent variables are the R & D characteristic factors, the technical commercialization characteristic factors, and the enterprise characteristic factors. R & D characteristic factors are existing patents, R & D expenses. Technology commercialization factors are new intellectual property performance, attracting external private investment, duration of technology commercialization, and government subsidy. The characteristics of firm are control variables such as firm size, business type, and the volume of sales. This study analyzed the success factors of technology commercialization for 182 companies supported by 'R&BD Supporting Programs'. This used the performance data of the project R&BD (2013~2017) conducted by the Korea Institute for Advancement of Technology(KIAT). We conducted descriptive statistics and multiple regression analysis using SPSS 25.



# Does open trade increase China's carbon emissions?

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## **Abstract**

### **Research Question**

This article will focus on the following questions: (1) is trade openness having a positive or negative impact on China's carbon dioxide emissions? What is the intensity of the impact? (2) is the "pollution shelter" hypothesis caused by foreign direct investment established in China? (3) Whether there are significant regional differences in trade openness in China due to differences in the natural environment and the characteristics of foreign location selection, and will this difference have an impact on carbon dioxide emissions? (4) The construction of new urbanization is a powerful engine of China's economic growth and social development, and has the rapid development of urbanization in China in recent years had an important impact on carbon dioxide emissions? (5) Import and export trade is the booster of China's economic development. has trade transactions resulted in the transfer of pollutants to China?

### **Key Literature Reviews**

The literature on trade and environmental pollution can be broadly divided into two categories: support for Copeland and Taylor (1994) [1]to propose the famous "pollution paradise Hypothesis" when studying the relationship between North and South trade and environment. Then more and more scholars use inter-provincial data to explore the impact of FDI on China's carbon emissions also found that there is a positive correlation between carbon emissions and FDI inflows in China (Zhou Jieqi, Wang Tongsan, 2014)[2].

Another type of scholar study found that foreign direct investment is a positive effect on China's pollution emissions. The inflow of FDI has improved the environmental quality of China to a certain extent, and has certain positive significance for the reduction of carbon emission intensity, The hypothesis has not been confirmed in China.(Song Deyong, 2011; Guo Pei, 2015)[3-4].

## Bank Governance, Media Coverage and Green Loans

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### Abstract

**Purpose/ Research Question:** This paper attempts to examine the governance mechanisms that may affect the green lending behavior of banks.

The banking sector plays an important role in promoting environmental protection. Specifically, banks are main capital providers of the enterprises, especially in the emerging and transition economies where the capital market is still less developed. Fully exerting the capital allocation function of banking industry can effectively guide the companies to adopt cleaner production activities. However, the environmental performance of banks is worrying. For example, banks may still issue loans to the polluting enterprises (Schepers, 2011) and there are serious problems in the transparency and credibility of the environmental information disclosed (Prakash and Potoski, 2007). What's worse, free-rider problems even exist in the banks that abide by the Equator Principles (Christopher and Alexis, 2006). Therefore, in view of the important role of banking sectors in environmental protection, this paper intends to explore the governance mechanisms that affecting banks' environmental loans.

**Key Literature Reviews:** The increasingly serious environmental problems have aroused people's attention. Environmental externalities highlight the importance of the government, which plays a key role in promoting industrial upgrading and cleaner production and thus realizing the so-called "Green Governance" (Cooke, 2015; Kim et al., 2016). It is the same thing for the banking sector. However, there are few researches about the banks' environmental responsibility and the factors that affect banks' environmental loans have not yet been studied at present, while existing studies having made in-depth analysis on the economic performance, risk and business behavior of banks (e.g. Laeven and Levine, 2009). Our paper relates to the literatures that investigate the relationship between government ownership and bank loans. Sapienza (2004) who finds that the State-owned banks charge lower interest and mostly favor firms located in depressed areas, is the paper most closely related to ours. A useful way to compare our paper with Sapienza (2004) is that he focuses on the social effect of government ownership, while we examine the environmental responsibility of banks.



# Effectiveness of Faculty Development Program for a MBA Course in Myanmar

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**Khin Sandar Thein**

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## Abstract

**Purpose/ Research Question:** The purpose of the present study is to evaluate the training program for the faculty members of a MBA course at a university in Myanmar. More specifically, as one case of efforts on training of trainers (ToT), the analytical focus is on identifying training effectiveness, such as knowledge and skills acquired as well as 'training transfer' (application of knowledge and skills acquired back to the workplace).

**Key Literature Reviews (About 3~5 papers):** In terms of theoretical discussion on the topic, the field of human resource development studies has dealt with this issue, for example, regarding theoretical discussion from the standpoint of industrial and organizational psychology (Latham, 2003) and the importance of learning knowledge and skills on training transfer by current and prospective trainers participating in ToT. (Hutchins, Burke & Berthelsen, 2010). There have been several empirical studies analyzing effectiveness of ToT, though mostly they are conducted in the case of medical education and training, mainly from the practical perspectives. We have not found studies in the case of the faculty members at university, particularly at MBA courses. Even though teaching experiences of trainers for medical professions and MBA students are not exactly the same, we expect considerable degree of similarities between the two, as both are professionals. For example, according to a systematic review of ToT regarding employees in medical and social welfare sectors, it was effective to adopt the integrated approach such as supporting interactive learning by study manuals, for the various outcomes including knowledge and skills acquisition, behavioral change (=training transfer), and outcome at the level of those supported like patients (Pearce et al., 2012). This sort of result should be utilized in the present study for developing the ToT program. The other important point is the prior studies made their analyses in Western developed countries only, although ToT has been commonly utilized as a practical approach in development assistance. In this regard, it is considered that the studies on Asian developing countries such as the present study have a significance from both academic and practical perspectives.

# Developing Structured On-the-Job Training for Local Trainers for Industrial Human Resource Development in Myanmar

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## Abstract

**Purpose/ Research Question:** The present study aims at analyzing the process toward as well as the achievement and challenge in developing structured on-the-job training (S-OJT) of local trainers in management subjects in the case of Myanmar-Japan Center for Human Resource Development (MJC). More specifically, we investigate what and how the local trainers learn from whom with what time schedule, all through the process from working with the Japanese experts at the early stage to teaching the subjects independently after completing the training of trainers (ToT), especially on how can they be in a systematic way while customized to each trainer.

**Key Literature Reviews (About 3~5 papers):** OJT is training in the work setting, not in a lecture room or any other off-the-job setting. In particular, S-OJT is OJT implemented systematically with clear learning goals as well as the targets related to the knowledge/skills contents, their levels and required time for completion, in order to overcome such criticism on OJT as being unstructured and so ineffective consequently. Along with this line of thoughts, Jacobs (2003) defined S-OJT as the planned process of having an experienced employee train a novice employee on a unit of work at or near the actual work setting. Overall, the implementers expect to exploit the advantages of OJT and off-JT at the same time, even though they may also have a risk of suffering from the disadvantages of both methods. Because of the considerable interest from researchers, the design, implementation and delivery of S-OJT programs have been studied (Ahadi & Jacobs, 2017).

Although S-OJT has been studied by researchers, ToT has not been analyzed in the literature concerned. On the other hand, according to a systematic review of ToT regarding employees in medical and social welfare sectors, S-OJT has not been included as a main topic (Pearce et al., 2012).



# Knowledge Diffusion Path Generated by Technological Collaborators: The Exploratory Case of the Advanced Coal Technology Consortium

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## Abstract

**Purpose/ Research Question:** The study is aim to explore the knowledge diffusion path in international technological cooperation especially in large-scale demonstration project. Three research questions are considered based on the literature. First, how is the knowledge of project formed and perceived? Second, what approaches of collaboration in project can be adopted for knowledge diffusion? Third, how can the knowledge diffuse without infringing upon the intellectual property?

**Key Literature Reviews (About 3~5 papers):** There are many literature talking about the knowledge diffusion or similar concepts which are in different ways of expression, such as knowledge sharing, knowledge transfer or knowledge learning. Some research on knowledge diffusion path is mainly based on path dependence theory. The common knowledge diffusion path exists in the dissemination of literature (Yu et al., 2014). Therefore the characteristics of knowledge diffusion can be represented by the references in the literature (Liu et al., 2016). Greve et al. (2015) believed that innovative product and technology will have path dependence effect in the process of diffusion, regardless of the success or failure in the product marketing or technology application. However, this effect may be different in developed and developing countries (Briggs et al., 2015). And the diffusion path will develop if knowledge has evolutions, which makes the new technologies spreading faster and broader (Simmie et al., 2014). Mercure et al. (2014) studied the proliferation of low-carbon technologies and argued that global climate policy had a significant impact on the adoption of low-carbon technologies in the international power industry. But the policy is only one factor affecting technology transfer, and knowledge management and organizational structure are also important factors (Dosi et al., 2013). Park et al. (2018) analyzed the energy management system in an open innovation view, and found that the information sharing in the system affects the electricity consumption (Park et al., 2018).

# Research on Regional Collaborative Innovation Platform Based on platform theory——With Nanning high tech Industrial Development Zone

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## ABSTRACT

### **Purpose/Research Question:**

With the concept of "Internet+" penetrating into multi-screen network across the platform, the network platform economy is increasingly prosperous. The platform economy has become a new economic model in the twenty-first century. The prosperity of the platform economy has given birth to a batch of network economic platform. These network economic platform achieve self-upgrading by competing with each other, and promote the ever-changing society by cooperating with each other.

Regional industrial Collaborative Innovation platform plays an important role in the process of industrial structure adjusting and economic development pattern transforming. This article, based on platform theory, analyzes a specific pattern of the role of government in promoting regional industrial development and holds that all kinds of industrial parks are a platform to attract economic agents to investment and internalize their externalities through supplying services. Instead of viewing government as an exogenous variable, this article handles government as an endogenous variable which should focus on core capacities and knowledge innovation to realize mutual growth of industries and government. Nanning high tech Industrial Development Zone is analyzed as an example to illustrate these arguments. This article is supposed to be helpful in making of industrial policies and improvement of government functions. "Internet plus" is a new format innovation under the development of the Innovation 2.0, it uses the Internet platform and the traditional industry to make a deep integration to create a new development ecology, that is to make full use of the Internet to optimize the allocation of resources in the community and integrated function, then innovation will be the integration of the Internet in the depth of the economic and social fields, enhance social innovation and productivity, a wider range of Internet based tools for the realization of economic development in the new form.



# Virtual Reality vision training for Binocular dysfunctions

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## **Abstract**

### **Purpose/ Research Question:**

Vision is not simply the ability to read a certain size letter at a distance of 20 feet. Vision is a complex and adaptable information gathering and processing system which collects, groups, analyzes, accumulates, equates, and remembers information. Some of the essential components of the visual system and their disorders which can be physiologically and clinically identified, i.e., the oculomotor, the accommodative, and the fusional vergence systems have been discussed. Any dysfunctions in these systems, can lessen the quality and quantity of the initial input of information into the visual system. Deficiencies in one or more of these visual subsystems have been shown to result in symptoms, such as blurred or uncomfortable vision or headaches, or behavioral signs such as rubbing of the eyes, eyes turning inward or outward, reduced job efficiency or reading performance, or simply the avoidance of near point tasks. In addition, these signs/symptoms may contribute to reducing a person's attention and interest in near tasks. The goal of vision therapy is to eliminate visual problems, thereby reducing the frequency and severity of the patient's signs and symptoms. Vision training should only be expected to be of clinical benefit to patients who have detectable visual deficiencies. It is evident from the research presented that there is sufficient scientific support for the efficacy of vision training in modifying and improving oculomotor, accommodative, and binocular system disorders, as measured by standardized clinical and laboratory testing methods, in the majority of patients of all ages for whom it is properly undertaken and employed. The American Optometric Association reaffirms its long-standing position that vision therapy is an effective therapeutic modality in the treatment of many physiological and information processing dysfunctions of the vision system. It continues to support quality optometric care, education, and research and will cooperate with all professions dedicated to providing the highest quality of life in which vision plays such an important role. Traditional field training using existing training equipment did not provide convenience function between experts and subjects, but recent advances in IT technology have commercialized VR vision training technology that combines VR devices and visual field training, increasing time and space freedom for subjects. Therefore, this study suggesting for new program of vision training by VR among the binocular dysfunctions.



## Early Anti-Aging Convergence Research for Development of Beauty Education Program in Korea

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### **Abstract**

Adolescence is often perceived as the age at which attention to appearance begins. Especially today, with the development of online media such as YouTube, they are able to satisfy their curiosity through the vast amount of online information. At the same time, they are easily embraced by false information, which ultimately affects adolescent skin health. This study analyzed the necessity of makeup, cleansing and skin care education related to appearance management behaviors of Korean youth in order to form the right knowledge and correct attitude toward the youth.

**Keywords:** Beauty management behavior, Adolescents, appearance, Knowledge, Beauty education



# Public Service Design Strategy Based on a Collaborative Creation Platform

## -Focusing on the Citizen-sympathetic Bus Stop Development Project of the Jeju Special Self Governing Province-

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Society of Design Science, *Korea*

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### Abstract

As the Value of public service has emerged, service design has been increasingly used to improve public domain services such as safety, welfare, education, medical care, environment, and energy. Service design is an innovative strategy for human-centered services that designs value-added and intangible service experiences of high value (Moritz, 2005; Hollins, 2006; Jeon, 2016) [1][2][3]. Recently, local governments have been using service design to improve public services. As a result, residents can quickly identify their needs at their contact points and enable flexible budget management accordingly (Mol et al., 2014; Kime & Nam, 2016) [4][5]. In fact, in South Korea, the business areas that the public, government officials, and service designers jointly participate in to ensure the improvement of public services, such as the "National Sedign Unit Project" and "public Service Design Innovation Project", are expanding from the central government to local government [6].

For densely populated urban centers, public transport services are the public sector service that need to be improved most urgently (Scottish Enterprise, 2014) [7]. In South Korea, the inconvenience of the traffic mobility is one of the biggest problems of the public service, and can lead to the deterioration of citizens' quality of life [8]. In this respect, Kang (2015) mentioned the lack of information for foreigners, the lack of consideration for the elderly and the disabled, and the on-boarding system that does not take into account the location of individual mobility [9].

# The Effect of Personal Value on CSV (Creating Shared Value)

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## **Abstract-Purpose**

This study examines the personal attitude and value for configuration of CSV(Creating Shared Value).

## **Intro(background)**

Recently, the paradigm of development is changed.

Development pursues individual and social well-being through harmony between economic growth, social integration, and environmental protection. Many researchers and practitioners are paying attention to innovative activities and services that are motivated by the goal of meeting a social need(2018, Hyunjung Lim, Jonghwan Eun).

For the past several years, they seem to have increasingly discussed CSV(2018, Rebecca Chunghee Kim). CSV consists of business, social, and personal values[Fig 1]. CSV represents a new approach to managing that cuts across disciplines. Because of the traditional divide between economic concerns and social ones, people in the public and private sectors have often followed very different educational and career paths(2011, Michael E. Porter & Mark R. Kramer). Education should consider not only the economic impact of business activities, but also the social impact.(2018, Daesu Kim, Dongshik Lee). Knowledge have to provide policy direction and idea about how to identify and unravel various common issues we face(2018, Keunyoung Lee, Kwangho Jung). But, many schools still teach the narrow view of economic value. School curricula will need to broaden in aspect of social and personal value.



# Effects of firm-level diversification of market, product, and technology on performance: Focused on diversity property

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## Abstract

Due to the importance of diversification effect, firm's diversification was discussed by different value chains of market, product, and technology. Previously, the diversification itself was adopted in a simple manner although its property contains different aspects and the results varies depending on the diversity property of selected index. In addition, the existing approach for measuring firm's product/market diversification using sales information distinguished by standard industry classification cannot provide direct implication as different strategies are made for market and product diversification. In this sense, this study takes firm-level diversification research to new level of analysis by considering firm-level diversification with clear separation between market and product and two diversification perspectives. To find out the effects of our framework on business and innovation performance, an empirical analysis for pharmaceutical firms are conducted. In the case of market diversification, less market heterogeneity causes a significant influence on business performance. For product (technology), a balanced and less heterogeneous (concentrated and heterogeneous) product (technology) diversification are turned out to promote the firm's performance.

**Keywords:** diversification framework; diversity property; market diversification; product diversification; technology diversification; panel regression

# **Technology Configuration and Design Scheme For Block-chain Based Multiple Security Authentication in IoMT(Internet of Medical Things) System**

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## **Abstract**

As the number of IoT devices increases and services are expanded and illegal hacking and infringement methods become more sophisticated, an effective solution for block-chain technology is required as a fundamental solution to the security threat. In this paper, we develop security module of IoT device based on block chaining technology which can block hacking and information infringement, multi security block chain system between IoT device and user terminal, user application development, We will contribute to solve the security threat of IoT application service by newly developing and presenting it. In particular, we present some schemes for the development of multi-security authentication system based on block-chain for IoMT (Internet of Medical Thing) security.



# How Do Relational and Organizational Characteristics Affect Joint Knowledge Creation in the Period of the Post-Merger Integration?

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## Abstract

This study examines how relational and organizational characteristics affect the joint knowledge creation during the post-acquisition period. We investigate the effect of geographical proximity, technological dissimilarity and change of organizational identity on joint knowledge creation using the data from 136 high-technology M&As during 2000–2004. Our empirical results show that geographical proximity and technological dissimilarity creates less joint knowledge by collaborating with engineers from both organizations. We also find that change of organizational identity is negatively related to joint knowledge creation.

## Purpose/ Research Question:

What determines the success of Mergers & Acquisitions (M&As)? While much of prior research is about post-acquisition integration, the locus of academic attention had mostly been on a structural integration (Shin et al., 2018). Only a few studies were interested in joint knowledge creation through interpersonal collaboration between engineers of the target and the acquirer from the viewpoint of knowledge integration.

This study aims to fill in the gaps mentioned above, thus explored new methodologies of joint knowledge creation from human interactions between the acquirer and the target. We investigated joint knowledge created through communication and social interaction between engineers who carry tacit knowledge using joint-patent filing.

## Key Literature Reviews (About 3~5 papers)

Geographic Proximity and Joint Knowledge Creation

Both geographical proximity and organizational similarity increase interaction among engineers for the acquiring firms and targets. It leads to create more joint knowledge. Even if organizational similarity exists between the two organizations, it would be difficult to make face-to-face interactions that are required for tacit knowledge transfer (Yun et al., 2016).

# The impact of multimarket competition on innovation strategy: A case study of the Korean game companies in Japan and China

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## **Abstract**

### **Purpose/ Research Question**

Multimarket contact (MMC) refers to the situation in which more than two firms simultaneously compete each other in several product and/or geographical markets (e.g., Korn & Baum, 1999; Yu & Cannella Jr, 2013). Most studies on MMC have examined how market overlap creates "mutual forbearance" which lessens the intensity of rivalry (Gimeno & Woo, 1999; Greve, 2008). While prior studies have mainly paid attention to how reduced rivalry from MMC influences market entry and exit decisions, only a few studies have paid attention to its impact on innovation activities (Anand, Mesquita, & Vassolo, 2009; Theeke & Lee, 2017). The purpose of this research is to explore how multimarket competition influences different stages of innovation. Specifically, this research will focus on three stages of innovation; content development, commercialization, and protection of IP(Intellectual Property)s.

### **Methods**

This study is conducted as an exploratory research based on industry and firm-level case study. Mobile game industry is a suitable context to this study since on-going upstream and downstream innovation activities are observable for a broad set of firms. In particular, this study focuses on Korean game companies operating in Japan and China due to the following reasons. First, in terms of the market size and growth, Northeast Asian countries represent approximately 40% of the market share (Korea Creative Content Agency, 2018). Second, there are enough players and increasing rivalry among Korean mobile game companies in Japan and China as these two markets are considered to be the first choice market for global expansion.



# Intangible Resources and Internationalization for the Innovation Performance of Chinese Hi-tech Firms

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## Abstract

**Purpose/Research Question:** This study aims to provide better explanation among intangible resources, internationalization and innovation performance of Chinese Hi-tech firms. For this purpose, we examine the relationships between the three intangible resources and innovation performance, and then the moderating effect of internationalization on this relationship.

**Key Literature Reviews: (1) Resource-based view:** According to the RBV, firm performance are differed primarily by the consequence of differences in a firm's intangible resources as they are valuable, rare, inimitable, and non-substitutable (Barney, 1991; Grimaldi et al, 2017). Among possible intangible resources, the technology, human capital, and reputation are considered to be the three of greatest strategic importance (Gomez- Mejia and Balkin, 2002; Kim & Lee, 2018; Kong & Thomson, 2009; Park et al., 2018). Other scholars, like Grant (1991) and Hall (1992, 1993), have included organizational culture and relational capital in this group of strategic intangible resources. **(2) Internationalization of EMFs:** Emerging market firms (EMFs) are increasingly venturing into foreign countries (Buckley et al., 2007; Wang, Hong, Kafouros, & Boateng, 2012). Unlike firms from developed countries, EMFs operate in environments characterized by under-developed institutions that constrain the development of internal capabilities for innovation (Cuervo-Cazurra, 2008; Luo & Tung, 2007). Extant research suggests that firms originating from weak institutional settings expand overseas to seek more efficient institutions (Luo, Xue, & Han, 2010) that may enable them to enhance their innovation performance and global competitiveness. However, the theories in the field of internationalization suggest significantly different predictions regarding whether internationalization is beneficial for EMFs (Sui & Baum, 2014).



# Supplier, Tailor and Facilitator: The Typology of Platform Business Model

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## **Abstract**

In modern business, companies are confronted with various environmental changes to sustain their business, such as market structures, competitive advantages, public policies, and even technological foresight (Miles, 2010). And platform business, explained originally by the theory of Two-sided Markets (Evans and Schmalensee, 2010; Parker and Van Alstyne, 2005; Rochet and Tirole, 2003), has taken center stage as the newest value chain development in order to overcome the changes and grow sustainably. This research is a design aimed at strengthening corporate competitiveness with the value chain development and open innovation tool (Gawer, 2014; Kim, 2014). It builds market momentum (Gawer and Cusumano, 2008) and enables adaption to unanticipated changes in the external environment. Nevertheless, there have not been any systematic studies that analyze the platform value chains and value streams.

For a right understanding of this platform business, it is crucial to analyze that how the value chain and value stream are changed in the platform business model in order to explore value chains and value streams in the two-sided market, which has a distinct group of users on both sides. Because the platform has a distinct group of users on each side, value moves from both the left and the right, and this value chain change is an important feature in the two-sided market. Value chain features prominently in development business aimed at stimulating economic growth and sustaining the competitiveness of the corporate business (Humphrey and Navas-Alemán, 2010; Cooke, 2017). Especially, value chain is the most unique and crucial elements in ICT and e-business (Amit and Zott, 2001; Ceccagnoli et al., 2012; Timmers, 1998). It disaggregates a corporate into its strategically relevant activities to understand the existing and potential sources of differentiation (Porter, 1985). An analysis of value stream is important for the understanding of value chain development (Bi et al, 2016; Hines & Rich, 1997). Therefore, guides for value chain are crucial analytical tools to develop and sustain the platform business on behalf of platform providers and stake holders, such as contents providers and consumers (Gawer and Cusumano, 2014; Kim, 2018). Because previous researches do not analyze how the value chain and stream are changed in the platform business model, however, this study aims to first examine which types of platform business models exist; this depends on the value chain, which is the essential element of the sustainable business for platform corporates.



# Regional innovation by practical method to the local situation

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## Abstract

### Purpose/ Research Question

The process of grasping and solving regional challenges is deeply tied strongly to the regional characteristics, so it is often very difficult. Therefore, in order to promote things reasonably and rationally, it is considered that performing logically according to one model becomes a clue to implement solutions. We assume that methods derived from such a model must be reasonable and convenient in practice. Based on such a viewpoint, we suggest the process model from the extraction of regional challenges to the implementation of measures.

1. grasp of current situation, 2. problem recognition, 3. item enumeration,
4. sorting, 5. problem extraction, 6. detailed investigation, 7. target selection,
8. measures planning, 9. carry out

The flow from 1 to 9 above is based on the experience of community association activities and disaster prevention volunteer activities or various kinds of duties, especially the experience of teaching and taking examination instruction as a teacher. That shows the process model for the situation of each region or each student to resolve each problem as a practical method. Although a process of extracting challenges are often neglected, it is an important process that also affects implementation of subsequent measures, and it is not just highlighting the problem. Backgrounds and relationships to be noticed in planning countermeasures are strongly linked to each other, so consideration should also be made as various conditions in the solution process. For this reason, if the method of extracting the problem is mistaken, the countermeasure will be forcibly proceeded without grasping the relationship of stories and things, and not only cannot be implemented smoothly, but the countermeasure itself may be canceled.

In this way, the process image of the challenge extraction process and the process of formulating the solution will be an extremely important position in solving the regional problem.

## Indirect effects of regulation on audit firms in Taiwan

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### **Abstract**

This study investigates the indirect effects of regulation over tax agents on performance of audit firms in Taiwan. To be a professional, such as lawyers, doctor, or certified public accountants (CPA), you are required to take a uniform examination held by the Examination Yuan of Taiwan. After passing the examination, to obtain a license to practice, you are asked to join the related association such as Taiwan Certified Public Accountants Association. Over the past five decades, tax agents serve small and medium enterprises under the executive order issued by the Ministry of Finance and Ministry of Economic Affairs. Because of no uniform examination and license, tax agents are jokingly referred to as underground CPA. To establish a sound accounting and tax return filing system, Taiwanese Ministry of Finance drafted the regulation over tax agents and was approved by the Legislative Yuan, the 2004 Tax Agent Act.

Tax agents practicing before 2004 can either take the examination or participate annual professional training to qualify as a certified public bookkeeper (CPB). After 2004, taking the uniform examination is the only way to be a CPB. The passage of Tax Agent Act entitles tax agents to deliver services as a legal professional. The article 13 of Tax Agent Act stipulates the services which CPB can offer, including tax and consultation, corporate registration and accounting and bookkeeping. These services offered to small and medium enterprise by tax agents are also provided by CPA for the past five decades. To ease the subsequent analysis, we define the services that can be rendered by tax agents and auditors as overlapped businesses.

Before 2004, CPA provided services with a certified license but tax agents without the certification, leading to an inferior situation for tax agents in soliciting and expanding overlapped businesses. After 2004, the Tax Agent Act endowed tax agents a certified license, which will enhance their advantages in competing the above businesses with CPA.



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## Smart tourism destination. A bibliometrical analysis

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### Abstract

**Purpose/ Research Question:** The aim of this paper is to provide a general overview of research focused on the smart destination. Specifically, it intends to show how the topic of smart destination is developing by using a bibliometric perspective that contributes to present the state of the art of this research field, to identify the most influential researches and concepts over the last years, to single out the main gaps in the literature and to suggest future research according to the information obtained by the analysis.

**Key Literature Reviews (About 3~5 papers):** Literature on the topic of smart destination has gained increasing attention, over years, in different fields (strategic management, sociology, etc.). The reason can be linked to the interest that destination management organizations and policy makers are bringing smartness through the adoption of solutions mediated by advanced ICTs into tourism. This because it permits to improve the opportunities: a) to provide well-defined personalized information and services before travelling (i.e. definition of virtual tours, augmented reality, prices, gastronomy etc.); b) to offer different tools oriented to engage with local communities and operators in co-creating memorable tourism experiences, by enhancing the value of the involvement and the immersion in local culture and traditions embedded in the visited places; and c) to share the emotion of the customized tourism experiences by stimulating the contributions and feedback and facilitating the visit of other people within destinations. Therefore, the potentiality of smartness in the tourism are stimulating the definition and the implementation of strategies, policies, activities to facilitate useful connections in smart places that characterizing the ecosystem (Bae et. al.; 2017; Hwang et al., 2018, and also to create value for all stakeholders in the destination and also to increase the competitiveness.

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