Visual Intelligence and Knowledge Creation

Søberg, Peder Veng

Published in:
CICALICS WORKSHOP 2016

Publication date:
2016

WELCOME TO CICALICS WORKSHOP
August 27-28, 2016

CICALICS in brief…

CICALICS (The China Innovation Circles and Academy – Learning, Innovation and Competence Systems) is an open forum with room for a wide set of topics. Every year, CICALICS workshop brings together scholars from all over the world to discuss, debate and advance ideas related to learning, innovation and competences. Following the rotation principle, the event is organized by one of the three partners in the CICALICS network (Tsinghua University, Zhejiang University and the UCAS/Sino-Danish Center)

CICALICS 2016 host

This year, CICALICS is proudly hosted by UCAS/Sino-Danish Center (SDC). SDC, with its base in Beijing, is a collaboration between Danish universities and UCAS. The Innovation Management Programme of SDC consists of three interconnected parts:

- Master's programme in Innovation Management
- Research programme on innovation and innovation management
- Intensive collaboration programme with the business community

SDC 中国-丹麦创新研究中心 Sino-Danish Center

More information about SDC you can find at: www.sinodanishcenter.com

CICALICS Workshop 2016 programme

The two-day programme features:

- Keynote speeches by renowned Chinese and international scholars
- Parallel sessions with presentations of research papers
- Session with company presentations

For more details, see the enclosed draft programme of the workshop. The latest version of the programme and paper abstracts/full papers can be accessed at:

http://sdc-socialscience.com/2016-cicalics-academy-and-workshop/

We wish you two fruitful and inspiring days!

Event Chairs

Olav Jull Sørensen
Professor of International Business
Aalborg University, Denmark

LIU Xielin
Professor of Innovation Management
UCAS, China

Some practicalities

WiFi

Network: …
Password: 82858888

Contact person in Beijing: Ms. Wang Xi ✉ wangxi0916@sina.com ☎ 0086-13552507216

CICALICS Workshop (August 27 - 28, 2016) PROGRAM Beijing Foreign Experts Building, No 8, North of Huayuan					
DATE	**TIME**	**ROOM**	**SESSION**	**CHAIR**	**PRESENTATION**
2016-8-27 (Saturday)	8:30 - 9:00	Coffee House	Opening the Cicalics 2016 Workshop	Xielin Liu / Olav Jull Sørensen	
	9:00 - 9:45		Keynote 1	Olav Jull Sorensen	**Bengt-Åke Lundvall:** Refelctions on the Openness of National Innovation Systems
	9:45 - 10:30		Keynote 2		**Roberta Rabellotti:** Chinese MNEs' Shopping Spree in Advanced Countries. How Good Is It for Their Innovation Output?
	10:30 - 11:00	Coffee Break & Photo Session			
	11:00 - 11:45	Coffee House	Keynote 3	Xielin Liu	**Jeongmin Seong:** The China Effect on Global Innovation
	11:45 - 12:30		Keynote 4		**Kazuyuki Motohashi:** From International Linkage to Local Circulation: Evolutonary View of China's Innovation System
	12:30 - 13:30	LUNCH			
	13:30 - 14:00	Coffee House	Session -1 Innovation & internationalization	John Parm Ulhøj	**Olav Jull Sørensen** and Jizhen Li: Towards a Global Innovation System in a Firm and Nation Perspective
	14:00 - 14:30				**Kent W. Jensen** and Shayegheh Ashourizadeh: Cultural Distances Affecting Migrant Firms' Innovation
	14:30 - 15:00				**Li Zhu**: Good or Bad Partner for Innovation? Insight from International Strategic Alliance Network
	15:00 - 15:30				**John Parm Ulhøj:** The Importance of Theory in Scholarly Work (such as for example a PhD theses)
	13:30 - 14:00	No.2 Meeting Room	Session - 2 Innovation ecosystem & business model innovation	Dmitrij Slepniov	**Jian Chen,** Yimei Hu and Xielin Liu: Orchestrating an Innovation Ecosystem: the Role of Hub Firm and Ecosystem Based Dynamic Capability-Evidence from Chinese SOE
	14:00 - 14:30				**Dmitrij Slepniov** and David Schulzmann**:** R&D Subsidiary Mandates of Western MNEs in China: A Bumpy Road towards Upgrading
	14:30 - 15:00				Henrik Jensen and **Kristian J. Sund**: The Journey of Business Model Innovation in Media Agencies: Towards a Three Stage Process Model
	15:00 - 15:30				**Xi Sun:** Schumpeterian Incumbents and the Redevelopment of Industrial Commons in China - Comparative Case Study on Manufacturing Upgrading

CICALICS Workshop (August 27 - 28, 2016) PROGRAM Beijing Foreign Experts Building, No 8, North of Huayuan					
DATE	**TIME**	**ROOM**	**SESSION**	**CHAIR**	**PRESENTATION**
	13:30 - 14:00	No.5 Meeting Room	Session - 3 Government's role & innovation policy	Xiangdong Chen	**Max Rolfstam:** Public Procurement of Innovation as a Vehicle for Interaction and Learning, but on What level? A Sino-European Comparison
	14:00 - 14:30				**Dan Prudhomme:** IP-conditioned Government Incentives in China and the EU: A Comparative Analysis of Strategies and Impacts on Patent Quality
	14:30 - 15:00				**Shulin Gu:** Inclusive Development Based on E-shops in Rural China
	15:00 - 15:30				**Sylvia.Schwaag Serger,** Emily Wise and Erik Arnold: National Innovation Councils and Trends in Innovation Policy and Governance
	15:30 - 15:45	Coffee Break			
	15:45 - 16:15	Coffee House	Session - 4 Networks/cooperation and innovation	Yimei Hu	Xiaoming Sun, Antonio Capaldo, and **Jingxue Wang**: Intra-, Inter-organization Networks and the Locus of Innovations: Emerging and Mature Difference Effect
	16:15 - 16:45				**Kenv Yu:** The Stage Features of Relationship among Innovation Network, Integrators' control and Innovation Models--Based on Cross-case Study on CoPS Innovation
	16:45 - 17:15				**Ying Guo**, Yue Qian, and Yi Zhang: Exploring the Value-creation of Intra-industry and Firm-university Collaborations: Co-patent Analysis of Chinese Assignees
	17:15-17:45				**Zhongjuan Sun** and Jun Hou: Mergers and Acquisitions to Cross Innovation Threshold: Evidence from Chinese Manufacturing Firms
	15:45 - 16:15	No.2 Meeting Room	Session - 5 Knowledge creation & HR	Chaoying Tang	**Yu Zhang:** Research the Effects of R&D Labor Strcture on Efficiency—in the Perspective of Multiple Output
	16:15 - 16:45				**Chaoying Tang:**Internal and External Knowledge Searching and Employee Creativity in Science Research and Technology Development Fields
	16:45 - 17:15				**Peder Søberg:** Visual Intelligence and Knowledge Creation
	17:15-17:45				**Jizhen Li,** Yueheng Wang, and Yanbo Wang: Whose Hands to Put the Firms in? Equity Split and Performance of High-technology Ventures
	18:30 - 20:00	Banquet			

CICALICS Workshop (August 27 - 28, 2016) PROGRAM Beijing Foreign Experts Building, No 8, North of Huayuan					
DATE	**TIME**	**ROOM**	**SESSION**	**CHAIR**	**PRESENTATION**
2016-8-28 (Sunday)	9:00 - 9:45	Coffee House	Keynote 5	Xiangdong Chen	**Jorge E. Niosi:** Innovation, from Incremental to Radical to Cascade: the Acceleration of The Innovation Path: Management Implications
	9:45 - 10:30		Keynote 6		**Xiaolan Fu:** International Collaborative Innovation for Frontier Technology
	10:30 - 11:00		Coffee Break		
	11:00 - 11:45		Keynote 7	Jizhen Li	**Anthony Arundel:** Management and Service Innovation
	11:45 - 12:30		Keynote 8		**Keun Lee:** Catch-up Cycles and the Rise of the Latecomers in Six Sectors
	12:30 - 13:30		LUNCH		
	13:30-15:00		Company Presentations	Xielin Liu / Olav Jull Sørensen	**Gang Wang** (CEO and Founder of ApplySquare)
					Yifan Song (Founder of Tsingvisual Technology)
					Bruno Koennel (Senior R&D Manager, Daimler Greater China)
	15:00-15:30		Coffee Break		
	15:30-16:30		Closing Ceremony	Xielin Liu / Shulin Gu / Olav Jull Sørensen	

Notes: Presenter's name is highlighted in Bold

Workshop Participants

No.	Name	Email	University	Title	Topic for Workshop
1	Jorge E. Niosi	niosi.jorge@uqam.ca	University du Québec	Professor	Keynote speech: Innovation, from incremental to radical to cascade: the acceleration of the innovation path: management implications
2	Roberta Rabellotti	roberta.rabellotti@gmail.com	University di Pavia	Professor	Keynote speech: Chinese MNEs' shopping spree in advanced countries. How good is it for their innovation output?
3	Anthony Arundel	anthony.arundel@utas.edu.au	University of Tasmania	Professor	Keynote speech: Management and Service Innovation
4	Bengt- Åke Lundvall	bal@business.aau.dk	Aalborg University	Professor	Keynote speech: Reflections on the openness of national innovation systems
5	Xiaolan Fu	xiaolan.fu@qeh.ox.ac.uk	University of Oxford	Professor	Keynote speech: International innovation collaboration
6	Jeongmin Seong	jeongmin_seong@mckinsey.com	McKinsey Global Institute	Senior Fellow	Keynote speech: The China effect on global innovation
7	Keun Lee	kenneth@snu.ac.kr	Seoul National University	Professor	Keynote speech: Changes in industry leadership and catch up cycles in 6 sectors
8	Kazuyuki Motohashi	kazuyukimot@gmail.com	University of Tokyo	Professor	Keynote speech: From international linkage to local circulation: Evolutonary view of China's innovation system
9	John Parm Ulhøj	jpu@mgmt.au.dk	Aarhus University	Professor	The importance of theory in scholarly work (such as for example a PhD theses) (paper but not necessarily key note speaker)
10	Kristian J. Sund	sund@ruc.dk	Roskilde University	Associate Professor	The Journey of Business Model Innovation in Media Agencies: Towards a Three Stage Process Model
11	Kent W. Jensen	kwj@sam.sdu.dk	University of Southern Denmark	Associate Professor	Cultural distances affecting migrant firms' Innovation
12	Peder Søberg	pvs@business.aau.dk	Aalborg University	Assistant Professor	Visual Intelligence and Knowledge Creation
13	Ying Guo	guoying_bit@163.com	Beijing Institute of Technology	Lecturer	Exploring the value-creation of intra-industry and firm-university collaborations: Co-patent analysis of Chinese assignees

Workshop Participants

No.	Name	Email	University	Title	Topic for Workshop
14	Zhongjuan Sun	sunzhongjuan@cueb.edu.cn	Capital University of Economics and Business	Assistant Professor	Mergers and Acquisitions to Cross Innovation Threshold: Evidence from Chinese manufacturing firms
15	Olav Jull Sørensen	ojs@business.aau.dk	Aalborg University	Professor	Towards a Global Innovation System in a Firm and Nation Perspective
16	Dmitrij Slepniov	ds@business.aau.dk	Aalborg University	Associate Professor	R&D Subsidiary Mandates of Western MNEs in China: A Bumpy Road towards Upgrading
17	Jian Chen	chenjian111@mails.ucas.ac.cn	University of Chinese Academy of Sciences-SDC	Ph.D. Student	Orchestrating an innovation ecosystem: the role of hub firm and ecosystem based dynamic capability---evidence fron Chinese SOE
18	Chaoying Tang	tcy@ucas.ac.cn	University of Chinese Academy of Sciences	Professor	Internal and External Knowledge Searching and Employee Creativity inScience Research and Technology Development Fields
19	Max Rolfstam	max@business.aau.dk	Lund University	Associate Professor	Public Procurement of Innovation as a Vehicle for Interaction and Learning, but on what level? A Sino-European comparison
20	Jizhen Li	lijizhen@gmail.com	University of Chinese Academy of Sciences-SDC	Associate Professor	Whose hands to put the firms in? Equity split and performance of high-technology ventures
21	Dan Prudhomme	dan.prudhomme@ipkey.org	University of Chinese Academy of Sciences-SDC	Technical Expert & Adjunct Lecturer	IP-conditioned government incentives in China and the EU: a comparative analysis of strategies and impacts on patent quality (related to innovation policy)
22	Shulin Gu	shulin0082@aliyun.com	Tsinghua University	Professor	E-commerce and rural community-embedded entrepreneurship in China: A new wave of inclusive innovation for rural development?
23	Sylvia.Schwaag Serger	sylvia.schwaagserger@vinnova.se	Lund University	Professor	National innovation councils and trends in innovation policy and governance
24	Jingxue Wang	wangjingxue0330@163.com	Xi'an University of Architecture and Technology	Ph.D. Student	Intra-, inter-organization networks and the locus of innovations: emerging and mature difference effect
25	Kenv Yu	lisa_864@163.com	Xiamen University	Ph.D. Student	The Stage Features of Relationship among Innovation Network,Integrators' Control and Innovation Models--Based on Cross-Case Study on CoPS Innovation
26	Li Zhu	paperlizhu@ucas.ac.cn	University of Chinese Academy of Sciences-SDC	Ph.D. Student	Good or Bad partner for innovation? Insight from international strategic alliance network

Workshop Participants

No.	Name	Email	University	Title	Topic for Workshop
27	Yu Zhang	zhangyu_00613@163.com	University of Chinese Academy of Sciences	Ph.D. Student	Research the effects of R&D labor strcture on efficiency—in the perspective multiple output
28	Sun Xi	dr.sunnyjoy@qq.com	Capital University of Economics and Business, Beijing ,China.	Associate Porfessor	Schumpeterian Incumbents and the Redevelopment of Industrial Commons in China -comparative case study on manufacturing upgrading
29	Xielin Liu	liuxielin@ucas.ac.cn	University of Chinese Academy of Sciences-SDC	Professor	Active participation (Cooperated with Jian Chen on the same paper)
30	Haihua Wang	wanghaihua83@163.com	Shanghai University	Associate Professor	Active participation without a paper
31	Rasmus Lema	lema@business.aau.dk	Aalborg University	Associate Professor	Active participation without a paper
32	Peng Cheng	chengpeng@yeah.net	Beijing Forestry University	Associate Professor	Active participation without a paper
33	Yimei Hu	yimei@business.aau.dk	Aalborg University	Assistant Professor	Active participation (cooperated with Jian Chen on the same paper)
34	Shayegheh Ashourizadeh	shas@sam.sdu.dk	University of Southern Denmark	Ph.D. Student	Active participation (cooperated with Kent W. Jensen on the same paper)
35	Xiaoran Chang	changxiaoran1@126.com	Zhejiang University	Ph.D. Student	Active participation without a paper
36	Zongxi Zheng	zzx.wayne@qq.com	Zhejiang University	Ph.D. Student	Active participation without a paper
37	Martin Kyvsgaard	kyvsgaard@business.aau.dk	Aalborg University	Ph.D. Student	Active participation without a paper
38	Chao Zhou	yuanshanchengzi@126.com	Zhejiang University	Ph.D. Student	Active participation without a paper
39	Haoyu Zhang	haoyu_zhang@zju.edu.cn	Zhejiang University	Ph.D. Student	Active participation without a paper
40	Hongqi Xu	hongqixu@zju.edu.cn	Zhejiang University	Ph.D. Student	Active participation without a paper
41	Huijun Shen	11420011@zju.edu.cn	Zhejiang University	Ph.D. Student	Active participation without a paper
42	Xiaoli Tang	tangs111@163.com	Xi'an Jiaotong University	Ph.D. Student	Active participation without a paper
43	Xuechen Ding	xuechending@163.com	University of Chinese Academy of Sciences	Ph.D. Student	Active participation without a paper

Workshop Participants

No.	Name	Email	University	Title	Topic for Workshop
44	Ying Huang	huangying_work@126.com	Beijing Institute of Technology	Ph.D. Student	Active participation without a paper
45	Caiting Dong	781639629@qq.com	UCAS-SDC	Ph.D. Student	Active participation without a paper
46	Qian Sun	qianscsu@163.com	UCAS-SDC	Ph.D. Student	Active participation without a paper
47	Lee Hee-Hyung	successlee7@naver.com	Tsinghua University	Ph.D. Student	Active participation without a paper
48	Park won-chul	ava070070@gmail.com	Tsinghua University	Ph.D. Student	Active participation without a paper
49	Xingzi Xu	xuxz.12@sem.tsinghua.edu.cn	Tsinghua University	Ph.D. Student	Active participation without a paper
50	Lun Li	woshililun@126.com	Tsinghua University	Ph.D. Student	Active participation without a paper
51	Xuemei Zhang	zhangxuemei_1985@163.com	Tsinghua University	Post-doc	Active participation without a paper
52	Mariú Abritta Moro	mamor@env.dtu.dk	Technical University of Denmark	Ph.D. student	Active participation without a paper
53	Jin Chen	chenjin@sem.tsinghua.edu.cn	Tsinghua University	Professor	Active participation without a paper
54	Heidi Yan	Hui.yan@shu.edu.cn	Shanghai University	Director of International Activities & Lecturer	Active participation without a paper
55	David Schulzmann	schulzmann@business.aau.dk	Aalborg University	Ph.D. Student	Active participation (Cooperated with Dmitrij Slepniov on the same paper)
56	Quansheng Li	690525766@qq.com	Xi'an University of Technology	Ph.D. Student	Active participation without a paper
57	Long Wei	15446655@qq.com	Xi'an University of Technology	Ph.D. Student	Active participation without a paper
58	Yao Xiao	156052492@qq.com	Xi'an University of Technology	Ph.D. Student	Active participation without a paper
59	Jiang Huang	huangj.14@sem.tsinghua.edu.cn	Tsinghua University	Ph.D. Student	Active participation without a paper
60	Yanfei Zhao	1347780308@qq.com	Chinese Academy of Sciences	Ph.D. Student	Active participation without a paper
61	Gang Wang	wg@applysquare.com	ApplySquare	CEO and Founder	Active participation with an introduction of their company and innovation management

Workshop Participants

No.	Name	Email	University	Title	Topic for Workshop
62	Yifan Song	18810462073@163.com	Tsingvisual Technology	Founder	Active participation with an introduction of their company and innovation management
63	Bruno Koennel	bruno.koennel@daimler.com	Daimler Greater China	Senior Manager RD-China	Active participation with an introduction of their company and innovation management

CICALICS 2016 / WORKSHOP ABSTRACTS

Electronic version of the abstracts is available for download at
http://sdc-socialscience.com/2016-cicalics-academy-and-workshop/

SESSION 1 / 2016-08-27 / 13:30-15:30

Towards a Global Innovation System in a Firm and Nation Perspective

Olav Jull Sørensen and Jizhen Li

The aim of this paper is to present a holistic framework for the development of the Global Innovation System (GIS). The literature on GIS is limited and dominated by studies of "the internatuionalization of NIS". The proposed framework decompose the National Innovation Ssystem (NIS) into its constituent parts focusing on actors. Five groups of actors are identified (Firms, governments, research institutions, users and civilsociety/NGOs) and each of them are found to have their own internationalization agenda. At the same time, these actors interact globally and through there interaction, a GIS emerges. Thus, the GIS is not just the sum of National Innovation Systems. Furthermore, there is not just one GIS with one clear governance. Most have studied what we may call Corporate-GISs, but we have also Regional GISs such as the EU; sectoral GIS, etc. Reflecting the nature of the Tripple Helix actors, the paper proposes the emergence of a GIS to take place in three (overlapping) stages, the pioneering stage, the exploration stage and the integration stage.

Cultural Distances Affecting Migrant Firms' Innovation

Kent W. Jensen and Shayegheh Ashourizadeh

Purpose – Dating back to Schumpeter, research on innovation has given a particular notice to the potential for novelty to arise when knowledge components are recombined and when knowledge from one domain moves into other domains. While the dominant innovation research has focused primarily on the combinatory potential from diverse technologies, a recent interest has centered on the innovation potential that arise when entrepreneurs traverse national boundaries and thus create a potential to recombine knowledge from different formal and informal institutions. As entrepreneurs migrate, return to their home country, and or engage in importing and exporting activities, they combine knowledge from different national institutions such as the national cultures of countries. Because pairs of countries vary in their cultural differences and similarities, the combinatory potential from bridging across different national boundaries will vary. In a similar way, the challenges for entrepreneurs in making useful combinations of knowledge components with origin in different pairs of countries will differ. In the case of migrant entrepreneurs, the cultural differences between home and

host country may be more or less extensive; with implications for the innovation potential for migrant entrepreneurs' firms. While several studies have attended to the innovativeness of migrants' firms, there is so far a lack of large scale studies inquiring into the impact from the extensiveness of the cultural differences between home and host country on migrants' innovativeness. The purpose of this study is to examine how cultural distances between the home and host countries of migrant entrepreneurs affect the innovativeness of their firms.

Research design and data – The ideas concern migrant entrepreneurs with different national and cultural background around the world; migrant entrepreneurs which firms' innovation may be promoted as well challenged by the bridging across cultural distances between entrepreneurs' home and host countries. We use data from Hofstede's dimensions of national culture to construct measures of cultural distances between home and host countries. We combine this cross-country-level data with firm level data on the innovativeness of migrant entrepreneurs' firms collected in the Global Entrepreneurship Monitor survey of entrepreneurs 2012-2013, which comprises a sample of 3,803 migrant entrepreneurs in first generation who reside in 64 countries and come from 158 home countries. Data are multi-level and cross-classified with migrant entrepreneurs nested in both home and host country cultures. Analyses are performed using linear mixed models.

Findings – Our findings show that cultural dimensions of migrant entrepreneurs' home and host countries had no significant impact on the innovativeness of their firms. It thus seems as if the cultural inheritances of migrant entrepreneurs as well as the cultural context surrounding their firms in their host countries have little importance for their innovativeness. Cultural distance between migrant entrepreneurs' home and host countries was, on the other hand, found to promote the innovativeness of migrant entrepreneurs' firms. This finding suggests that migrant entrepreneurs are well capable of utilizing knowledge from their embeddedness in different cultures to create innovative businesses. We also tested for non-linear squared effects of cultural distance on firms' innovativeness, but without significant results. This suggests that migrant entrepreneurs' innovativeness increases with the cultural distances between home and host countries.

Value and originality – This study is among the first to examine the impact of institutional distances on the innovativeness of migrant entrepreneurs. As the flow of human capital across borders is dramatically increasing, knowledge of the dynamics by which institutional divides such as cultural distances may either promote or hamper innovativeness become increasingly important. While such cross institutional dynamics has previously received wide attention in the international business literature on issues such as HQ-subsidiary management and choice of entry mode, the specific attention to institutional differences in examining innovativeness of migrant entrepreneurs as well as the innovativeness of returnees and transnational entrepreneurs is still in an early phase. The value of the findings of this study on the impact of cultural distance on migrant entrepreneurs' innovativeness is enhanced by having a sample of migrant entrepreneurs that are located in a sample of host countries, which is fairly representative of countries in the World, and which connects to an even larger number of home countries.

Good or Bad Partner For Innovation? Insight from International Strategic Alliance Network

Xielin LIU and Li ZHU

Ego network position could not tell the full story of choosing partner of international strategic alliance network. Our longitudinal research indicates that effective international strategic alliance also depends on the two dimensions of alter network embeddedness, namely alter degree and alter structure holes. The ego and alter network embeddedness should be considered jointly to understand better about the network embeddedness on technological innovation. Using panel data from 306 Chinese firms in high-tech industries in the period 2001-2010, we find evidence that in the international strategic alliance network, the degree of ego firms in network has positive impact on ego's technology innovation, while structure holes of ego firms in network has negative impact. The structure holes of alter firms has positive impact on ego's technology innovation for providing abundant resources and heterogeneity of information. The impact of ego structure holes on technology innovation be moderated by alter degree of international alliance firms in network: the higher degree, the greater harmful from Structure holes of corporation. The impact of ego structure holes on technology innovation be moderated by the alter structure holes of international alliance corporations in network: the bigger structure holes, the greater harmful from structure holes of corporation. Finding shows that the network-related selection criteria are important for enterprise choosing partners in establishing international strategic alliance network.

The Importance of Theory in Scholarly Work

John Parm Ulhøi

Key objectives of the presentation are to (i) visit top-tier journals in the management discuss order to discuss their interpretation of theory and its importance(s) in scholarly work, (ii) identify some key roles and properties of theory and (iii) discuss whether or not the road we are on is the 'right' road. Before closing, the presentation addresses some of the implications that follows from being trapped in-a-race-for-more-paper-in A Star-journals.

SESSION 2 / 2016-08-27 / 13:30-15:30

Orchestrating an Innovation Ecosystem: The Role Of Hub Firms And Ecosystem Based Dynamic Capability—Evidence From Chinese SOE

Jian Chen, Yimei Hu and Xielin Liu

The current S&T policy framework of China has been promoting indigenous innovation in order to reduce dependence on foreign technology and enhance the innovative capabilities of Chinese firms. At the same time, SOEs have been given increased autonomy to make decisions and invest related to the directions and domains of innovation, and are becoming main players in achieving innovation, particularly in typical CoPs industries. Thus, SOEs, to a large extent, are required to work as the hubs driving and coordinating the open innovation ecosystem by removing the capability constraints of its partners and improving their transparency and receptiveness to new ideas.

Literatures show that, under the ecosystem concept, positions of leadership are in a challenge different in significant ways from those faced by dominant companies in the past, and the hub firm might change its role to be effective as an orchestrator that shapes the ecosystem indirectly rather than through direct command and control. However, most of the existing research has been on how the hub firm enhances its own competitive advantage and gains benefits leveraging the ecosystem, little attention has been paid to the ecosystem governance of the hub firm and how the hub firm promotes the competitive advantages of the overall innovation ecosystem by its orchestrating initiatives. There also lacks an overall framework to reveal the ways in which ecosystem players are interconnected and interacted with each other to promote ecosystem health. Therefore, this paper aims to explore the research questions:

- What role does the hub firm play in the CoPs based innovation ecosystem?
- How is the ecosystem-based dynamic capability cultivated in the orchestrating process by the hub firm?

Using the explanatory single case study method, this paper analyzes the electricity power industry in China, which as a latecomer is rising with the ambitious expansion and emergence of several magnates in recent years. Particularly in 2004, in order to meet the load growth, construction of a strong and reliable 1000 kV UHV ultra high voltage (UHV) alternating current (AC) backbone transmission network was proposed by the State Grid Corporation of China (SGCC). By orchestrating a CoPs based innovation ecosystem, many valuable achievements with the globally most advanced innovation level have been achieved. We adopt the framework of innovation network orchestration proposed by Dhanaraj and Parkhe, (2006) which comprises two processes: knowledge mobility and innovation appropriability. We find that SGCC acts as an orchestrator in shaping and managing the ecosystem. The process of value creation and appropriation is also a process of enhancing the whole ecosystem's dynamic capability. The hub firms perform their orchestrator functions in ecosystem operations by offering fertile ground for illuminating an open-but-owned structure of collective action.

(1) Different from hierarchy and market, SGCC conducts ecosystem governance internalizing the system of firms and the markets, and influences evolution of the network operations through different means. Ecosystems are usually considered to vary with regard to their structural patterns of relations, and these structural patterns work as basis of the governance of collective actions and activities among the hub firm and its partners in the ecosystem. SGCC adopts multiple forms of authority structure, incentive structure and regulation structure to ease the efficiency-inclusiveness tension, align individual and collective incentives, and maintain equilibrium between complexity and high-cost.

(2)The framework of dynamic capabilities is as the foundation of enterprise-level competitive advantage. However, under the ecosystem context, the activities' adaptation and renewal were dispersed across the entire ecosystem, and the concept of dynamic capability should be considered from the ecosystem level. We put forward an explorative construct, i.e. ecosystem based dynamic capability, which is defined as the ability of adaptation and renewal of partners across the entire ecosystem. The formation of ecosystem based dynamic capability is on the basis of a series of joint actions of interaction and collaboration moving toward closer relationships. These joint actions are comprised of three main subsets of activities: co-learning, co-decision and co-evolving.

(3) We can see that the orchestration process of SGCC can be divided into two streams of activities respectively in the individual level and the group level, i.e. the individual actions of the hub firm and the joint action of other ecosystem players. Thus, the orchestration process of the hub firm is different from managing a typical internal process; it requires a more fluid approach that empowers partners and employees and gives them the needed dexterity and flexibility to operate in a dynamic and uncertain world, while maintaining control at the same time. In this sense, control over the central element essential for ecosystem orchestration lies in constructing an open-but-owned structure, i.e. keep a balance between authority and openness and create an ecosystem-wide common communication structure or a context for interaction and joint problem-solving arrangements.

This research contributes to existing literature in three aspects. First, we verify the framework on network orchestration under the context of developing countries. Secondly, it enriches prior literature on innovation ecosystem, particularly in terms of the role of the hub firm in an ecosystem and how we can measure the health and competitive advantages of an ecosystem. Lastly, we put forward a new angle of considering how Chinese SOEs leading the indigenous innovation strategy by orchestrating an innovation ecosystem.

The findings also offer valuable managerial implications. It shows that SOEs as the hub firm should have strategic vision which takes ecosystem as a new source of competence, and change its role to be effective as an orchestrator that shapes the ecosystem indirectly, especially by constructing an open-but-owned structure or platform whereby which ecosystem players can together develop the ecosystem-based capabilities of self-renewal. Last but not least, evolution of technology should be judged in a systematic manner; and short-term indicator of firms' performance should be replaced by long-term dynamic perceptions on capabilities.

Further research will extend to broader situations involving other industries and countries and explore the detailed connections among these sets of activities to provide an overarching picture of ecosystem orchestration.

R&D Subsidiary Mandates of Western MNEs in China: A Bumpy Road towards Upgrading

Dmitrij Slepniov and David Schulzmann

The number of Western MNCs established R&D centers in China has been rising from the year 2000 starting with under 200 centers to over 1300 centers by the end of 2010 (Stanley, Yang, & Ritacca, 2013). These developments followed increased Foreign Direct Investment (FDI) to China, underpinned by strong Chinese government support and six to seven million graduates joining domestic workforce every year (Søberg, 2010; Stanley et al., 2013). According to the United Nations Conference on Trade and Development Survey, as early as in 2005, China became the most attractive location for R&D investment in the world (Motohashi, 2012). These R&D investments to a large extent are flowing into technological parks with good supporting infrastructure in Beijing, Shanghai, Guangzhou and Shenzhen (Stanley et al., 2013; Walsh, 2007).

Aside from the lucrative advantages of offshoring R&D to China, there are numerous challenges associated with setting up R&D centers in China. To mention just a few: intellectual property rights enforcement concerns (Sun, Von Zedtwitz, & Fred Simon, 2007; Walsh, 2007), human resource issues related to high employee turnover, limited creativity and initiative, language and cultural differences with western counterparts (Simon, 2007; Von Zedtwitz, Ikeda, Gong, Carpenter, & Hämäläinen, 2007). Therefore, not surprisingly many activities of Western MNCs R&D subsidiaries followed the trajectory that started with a 'local competence-exploiting' mandate, meaning that the role of the subsidiary was primarily focused on development and product adaptation to the local market (Lundin & Serger, 2007), rather than conducting new basic research which could be applied globally across the MNC (Bartlett & Ghoshal, 1998; Govindarajan & Trimble, 2012). Overtime, some R&D subsidiaries evolved and achieved a 'global competence-creating' mandate. They have been successful in new product development aimed at the worldwide market, instead of just performing localization and product adaptation for the Chinese market.

However, this road towards mandate upgrading may be rather bumpy. In this paper, we aim at contributing to the debate about why many Western MNCs in China struggle to transform their locally-oriented R&D subsidiaries to centers with global competence-creating R&D mandate. There are many well-developed theoretical and practical concepts that provide a good point of departure for this investigation. In particular, this paper draws on knowledge management studies and the role of knowledge management in the process of R&D mandate upgrading. Our approach to answering the research question of the paper is based on the principles of engagement with practice through case studies and action research (Yin, 2009; Coughlan&Coglan, 2002). The empirical foundation of this paper consists of two case studies of Western MNCs operating R&D subsidiaries on the Chinese market. The paper concludes with theoretical propositions about the challenges of R&D mandate upgrading and makes recommendations for managers dealing with these challenges in their daily work.

The Journey of Business Model Innovation In Media Agencies: Towards a Three Stage Process Model

Henrik Jensen and Kristian J. Sund

Digital entrants have changed the competitive landscape for advertisers and media. Over the past decade media agencies have grown more rapidly than the media market as a whole, securing a larger share of the value generated in the advertising industry. We develop a process model describing how these agencies have altered their business models over a period of a decade. We discuss three separate stages in this innovation process labelled business model innovation awareness, business model exploration, and business model exploitation. We find and document how different building blocks of the business model act as enablers of innovation in each stage of the business model innovation process. Our findings offer a way for legacy media to understand the transformation of media agencies.

Schumpeterian Incumbents and the Redevelopment of Industrial Commons in China – Comparative Case Study on Manufacturing Upgrading

Xi Sun

Buenstrof (2015) gives a useful discussion on the role of those established firms, i.e. Schumpeterian incumbents, in the evolution of innovative industries. But just as himself said, such an important topic is "not sufficiently well understood". This paper links those Schumpeterian incumbents, especially those big businesses with the solution of failures in national innovation system in China. One failure is the system failure derived from the missing of key linkages among different system actors, which is highly related to the transitional trajectory. Another failure is the evolutionary failure on capability accumulation, i.e. the half-way technological catching-up. Both kinds of failures result in obstacles in the development and upgrading of industrial commons in China, which could not be solved by free market and international trade automatically. These obstacles in reality also put the theoretical clichés such as flexible specialization and SME superiority into dilemma. Under such condition those Schumpeterian incumbents have to be more active and iniative in manufacturing upgrading. The empirical part of this paper gives a comparative case study on two active Schumpeterian incumbents in China, Changkai in circuit breaker sector and Gree in home appliances sector. Both of them started their catching-up since more than 2 decades ago. And their endeavors to overcome those system/evolutionary failures include three aspects at least, (1) to be more aggressive on quality control in supply chain management compared to their western counterparts, which is highly related to the institutional avoidance in the Chinese-pattern market economy, and calls for certain kind of governance innovation in supplier system; (2) to be more patient on long-term R&D programs,which is resulted from the poor accumulation in both product and components levels, and more engaged to boost self-confidence in technological catching-up inorder to clear away the inertia of historical paths; (3) to be more diversified and integrated compared to their contemporary competitors from the West, because of the limited system support from outside, which is especially necessary in manufacturing

upgrading. All the devotions make them critical drivers in the redevelopment of industrial commons, the historical root of which was built by those pilot agencies and industrial ministries in the central planned system. The final part gives a brief discussion on this Chinese phenomenon, including the importance to the resurgence of developmentalism in China.

SESSION 3 / 2016-08-27 / 13:30-15:30

Public Procurement of Innovation as a Vehicle for Interaction and Learning, but on what level? A Sino-European comparison

Max Rolfstam

Policy makers and academics have increasingly recognised the role of public procurement as a means to stimulate innovation (eg. Edler and Georghiou, 2007, Uyarra and Flanagan, 2010, Cepilovs, 2013; Rolfstam, 2013; Lember et al., 2014). Ample examples both from the past and more recently also support the general idea that public procurement can render innovation. From an innovation theoretical perspective, public procurement of innovation can be seen as a special instance of user-producer interaction leading to innovation, where interactive learning takes place between the procurer and the supplier(s). The question that have received little attention, however, concerns whether there is a preferred level of interaction to strive for, i.e. should public procurers engage in interaction with local, national, and/ or global firms, or should public procurement of innovation always be conducted as a fully competitive process? The paper sets out to explore this issue by comparing the developments in China and the European Union (EU). For the EU, public procurement policy has historically been drawing on mainstream economics. The central assumption built into EU public procurement law is that competition should be maintained and discrimination avoided. This has made any attempt to use public procurement as a direct support to domestic firms, illegal. On the other hand, as the legal framework prompts competition, it has sometimes made procurers to look for and find the universally best solution outside their own country (Rolfstam, 2007). China, on the other hand, has rather explicitly promoted innovation among indigenous firms and tried as far as possible to exclude foreign competition (Matechak and Gerson, 2010). More recently, due to international pressure, China has gradually made it easier for foreign firms to participate in public procurement, (Bichler, 2012), while, interestingly enough, the EU appears to be loosening up the requirement of competition. In the recent public procurement directives underway to be implemented among EU Member States are included elements and procurement procedures into the procurement law, which may increase possibilities for promotion of national champions. By drawing on cases and experiences from the two domains, this paper sets out to discuss what should be the preferred strive in public procurement used as an innovation policy instrument; competition, indigenous interaction, and if the latter, om what level?

IP-Conditioned Government Incentives in China and the EU: A Comparative Analysis of Strategies and Impacts on Patent Quality

Dan Prud'homme

This paper uses typological analysis to identify the strategies behind more than 70 IP-conditioned government incentive programs in China and 21 EU Member States, compares these strategies, and uses policy case studies to analyze the effects of patent subsidy programs in particular on patent quality. It finds that China and the EU both attempt to localize benefits of knowledge investment and discourage offshoring of taxable assets through controversial IP-conditioned tax incentives. At the same time, China appears to use IP-conditioned incentives on a larger scale, and more techno-nationalistically, than EU Member States; and although this strategy can be explained by China's position as a latecomer, some of these incentives nonetheless appear questionably effective at enabling catch-up. The analysis notes that while IP-conditioned incentives in the EU are most commonly intended to provide needs-based commercial support to SMEs, it is not uncommon for such types of incentives to be provided to large firms/other entities in China. Additionally, it is shown how IP-conditioned incentives lowering costs of utility model patents, when combined with lack of Substantive Examination for such rights, can lower patent quality—a situation Chinese policymakers have sought to address by adopting a strategy for reforming such incentives that evolves with the country's technological development trajectory.

E-Commerce and Rural Community-Embedded Entrepreneurship in China: A New Wave of Inclusive Innovation for Rural Development?

Shulin Gu

This work attempts to sort out a bit current theories in relation to inclusive innovation and inclusive development. Particularly it uses the Perez/Freeman essay on ICT "Big Surge" that opens the opportunity for local community-based entrepreneurship in e-commerce and additional activities. This work also develops the importance of ICT infrastructure for such wide participation by local people. This work goes further in analyzing some typically combined cases of rural community-based e-commerce, that are emerging in today's rural China. Based on empirical observations, the work discusses some factors that give influence to the phenomena: who are initiators of rural e-commerce; the business field that the initiatives are involved; the relationship of the fields with previous business foundations; what are roles of the village community and so on.

National Research & Innovation Councils as an Instrument of Innovation Governance: Characteristics & challenges

Sylvia Schwaag Serger, Emily Wise & Erik Arnold

In response to a growing need for strengthening the coordination, inclusiveness and, ultimately, the effectiveness of innovation policy governance, numerous countries have established research and

innovation policy councils. However, their structural characteristics (e.g. mandate, composition, resources, etc.) differ significantly between countries. The most notable differences are the following: • *Mandate/task* – whereas most councils have the primary task of providing advice (which, for some, includes producing reports and overseeing policy evaluation), others have a mandate to coordinate policy areas, drive change, and make policy decisions, sometimes including decisions regarding budget allocation. Their role, in this sense, may be either weak or strong.

• *Focus* – an important difference is between a narrow focus on research and innovation programs (or S&T programs) and related budgets, and a broader approach which includes regulations, incentives, education, entrepreneurship, financing (in a broader sense than only focusing on allocation of government funds) and framework conditions

• *'Anchoring'* –some councils are chaired by the head of government (prime minister), while others are led by a minister (usually of economics, science and technology, research or enterprise); yet others consist solely of independent experts who report to the government (the prime minister or a minister within the government)

• *Composition* – some councils consist of experts appointed in their personal capacity ('expert councils') while others consist of policy makers and high-level representatives of ministries, sometimes also including academia and industry ('actor councils')

• *Resources* – councils may have a budget, personnel and an organization enabling them to carry out or commission analyses, or there may only be a minimal secretariat tasked primarily with organizing meetings.

• *'Output'* – councils' primary outputs may be analyses (e.g. annual benchmarking analyses such as the 'Report on Austria's Scientific and Technological Capability' or 'State of the Nation Report' that benchmarks Canada's science, technology and innovation performance), evaluations and recommendations as opposed to decisions, plans and guidelines for future policy There is a general lack of research and comparative analysis of innovation councils – and, in particular, on their role and impact as an instrument of innovation governance. A recent evaluation of the Finnish Innovation Council reveals some general challenges for using innovation councils as a governance instrument, even when they are chaired by the prime minister with a clear mandate and comprise relevant ministries and other innovation actors.

Some of these challenges relate to the need to work more across disciplines, policy areas and ministerial boundaries, but also the need to work proactively and in a forward-looking manner and to include or draw upon relevant perspectives and expertise for policy formulation. The evaluation of the Finnish council indicates an evolution in the demands on innovation governance – including an increased need for coordinating systemic action, for mobilizing resources across geographies and stakeholder groups, and for fostering inclusive and dynamic cycles of policy development. These pressures are reinforced by the growing concern to address 'grand' or 'societal' challenges via research and innovation policy.

In this paper, we provide an overview of 14 national research and innovation councils from Europe, North America and Asia. We describe and compare them according to the characteristics identified above, and explore how countries are trying to address the evolving demands on innovation governance in designing or redesigning their innovation councils.

The international comparison shows that a national council's influence or impact is not only determined by its mandate or its composition– i.e. the extent to which the council is composed of high-level decision makers as opposed to 'merely' experts in their own right. Rather, there are many factors – acting in combination with one another – that contribute to councils' impact on innovation policy, including:

• *A mandate, composition and anchoring at top political level to give legitimacy;* in order to be able to have an impact on policymaking, an innovation council must have a combination of relevant, recognized and sought after expertise and anchoring at top political level. The latter could mean that the council reports to or is chaired by the Prime Minister. However, it should be pointed out that the Prime Minister chairing the innovation council or the innovation council reporting to the Prime Minister, are not sufficient determinants of its ability to have an impact.

• *A focus that is relevant and anchored in the national context – taking a broad (instead of a narrow) perspective on innovation and a systemic approach* including aspects such as education, sustainability etc. While it is not realistic to expect the council members to possess all expertise necessary for a broad-based innovation policy, it is important that its composition does not lead to a limited or narrow perspective on innovation – and that the council's mandate and working practices allow it to access competence and examine issues that are outside 'traditional' fields of innovation policy. One challenge is finding the right

balance between being focused enough to be able to make meaningful policy recommendations and broad enough to address framework conditions and to secure societal relevance.

• *A mandate, governmental anchoring and composition that fosters receptiveness and willingness on behalf of government to receive and act upon suggestions put forward or decisions made in the council*

• *A focus/approach and composition which acknowledges the increasing internationalization*

of research and innovation in order to avoid the council (and innovation policy) becoming inward-looking, e.g. through the inclusion of foreign experts in the council or the establishment of an advisory group consisting of foreign experts who are connected to the council.

• *Resources (budget and staff) that allow the council to produce and/or commission relevantanalysis and work with forward-looking activities, which are necessary in order to work proactively and promote broader visibility*

Our analysis also highlights some new trends that demonstrate councils' reaction to the evolving demands of innovation governance. These include a strengthened focus on forward-looking activities (e.g. foresight processes in Germany and multi-annual plans for research and innovation in Japan and South Korea), a greater tendency to involve foreign expertise (in the case of Austria, Germany, the UK, the Netherlands, Switzerland and Singapore), and more attention to stakeholder inclusion and communication (in the case of Denmark, Canada, and USA).

Finally we identify a number of challenges and tradeoffs that governments face when trying to set up and run innovation councils.

SESSION 4 / 2016-08-27 / 15:45-17:45

Intra-, Inter-Organization Networks and the Locus of Innovations: Emerging and Mature Difference Effect

Xiaoming Sun, Antonio Capaldo and Jingxue Wang

Empirical evidence about the relation between different kinds of networks and the locus of innovations is underexplored, and theoretical explanations with economic context are neglected. By using the data of Chinese and USA pharmaceutical firms, we show that In emerging economic environment, the locus of innovation is more likely on inter-organization networks with the increasing of the R&D uncertainty up to a threshold, and after which the locus of innovation is more likely on intra-organization networks; while in mature economic environment, the locus of innovation is more likely on inter-organization networks with the increasing of the R&D uncertainty. In addition, in emerging economic environment, the locus of innovation is more likely on inter-organization networks after the threshold of R&D uncertainty if the innovation is conducted on a stable collaborative relationship or network structure; in emerging economic environment, the locus of innovation is more likely on inter-organization networks after the threshold of R&D uncertainty if the companies have diverse collaboration experience. These results provide new directions and implications for future network studies.

The Stage Features of Relationship among Innovation Network,Integrators' Control Force and Innovation Modes – Based on Cross Case Study on CoPS Innovation

Keny Yu

Base on the network dominant position of integrators in complex products and systems innovation, this article explains antecedents and postpositive variables of the control forces, structure theory framework of the interaction among innovation network characteristics, control forces and innovation modes. Use three large different areas of CoPS enterprises as the research object, characteristics of innovation network and its influence on the innovation modes of integrators control forces are verified through exploratory cross case analysis, research shows that there is a positive correlation between relationship strength, network centrality and relation and core technology control forces of CoPS innovation integrators; relationship control forces and core technology control power are positively correlated with the incremental innovation, but a negative correlation with the radical innovation; relationships above shows the phase characteristics of CoPS innovation. The conclusion of this study on integrators in the innovation networks in different stages of CoPS innovation can improve the control force and the choice of appropriate innovation patterns which has huge practical significance.

Exploring the Value-Creation of Intra-Industry and Firm-University Collaborations: Co-Patent Analysis of Chinese Assignees

Ying Guo, Yue Qian and Yi Zhang

Conventional wisdom, which holds the view that enhancing the protection of firm's technological knowledge will achieve higher performance, is not wise anymore. Indeed, some researchers have noticed that firm's ability to successfully commercialize their technological knowledge depends not only on its own internal strategy, but also on activities cooperated with a wide range of organizations in innovation system (Cohen et al, 1990; Van de Ven, 1993; Spencer, 2003). The concept of open innovation, a fashion word recently, is coined in 2003 by Henry Chesbrough (Chesbrough, 2003), to describe innovation processes in which firms interact extensively with their external sources, such as suppliers, clients, competitors, universities, public sectors ect. In other word, the processes is related to a significant amount of external knowledge exploration and exploitation (Chesbrough, 2003; van de Vrande et al, 2006). Despite the growing importance of inter-organizational relationships and firms are aware of the risks falling behind the state of the art when choosing not to acquire knowledge from the innovation system, many firms experience severe challenges in actively managing the process of open innovation (Lichtenthaler, 2008; van de Vrande et al, 2009) on account that external knowledge does not equally benefit all firms. How to choose an optimal partner that have the best reciprocal relations with focal firm remains to be solved.

Among the outside knowledge sources of a firm, much discussion have been given to universities, government, which is attributed to the concept of the "Triple Helix" (Leydesdorff et al, 1996; Etzkowitz et al, 2000) of university-industry-government relationships and the importance of such linkages in the environment of open innovation. Industrial firm is the main actor that actually transform the technology to wealth while university is the novelty producer and government is the legislative controller. In this paper, we pay more attention to the performance that firms achieve with different partners, therefore, collaboration between firm and university and intra-industry cooperation are considered here.

Wang et al.(Wang et al, 2014) put forward that a knowledge element's combinatorial potential is affected by three aspects: the subject matter's natural relatedness, social relatedness and combinatorial experiences, which is consistent with the collaboration potential of different innovation actors. For example, many cases of cooperation have been found in intra-industry firms with the stimulation of proximity in business domain; and beliefs in the feasibility and desirability derived from social connection or experiences may bring about increasing ties.

In practice, co-patenting implies the outcomes of collaboration, and both applicants have the right to exploit the invention on their own behalf. Belderbos et al. (Belderbos et al, 2014) contend that co-ownership of intellectual property remains an empirically relevant strategy for companies developing technology jointly, considering the fact that the number of co-owned patents in the US increased steadily over time (Hagedoorn, 2003). The purpose of this paper is to explore the value of co-patents achieved through collaboration with different partners. Then, we conduct the co-patent analysis relying on the patents with China's assignees, which is retrieved from United States Patent and Trademark Office (USPTO) database, covering the period from 1976 to 2014. Joint patent ownership corresponds

to higher quality innovations relative to patents with a single owner (Belderbos, 2014), which reveals the importance of joint patents. Moreover, patents owned by Chinese assignee that are applied abroad implicit higher value, which can be regarded as the proxy of innovation performance.

This paper proposes three hypothesis that (1) Universities with high innovative capability are more inclined to collaborate with large companies, and the ranking of patent number among their respective peers is corresponded. (2) Higher value will be found in innovation products generated from the collaboration between universities with high innovative capability and large firms. (3) Innovation products of intra-industry collaboration are more valuable than that of firm-university. The innovative capability of actors and the value of products is measured by an indicator system, which contains three macro-level perspectives: technological perspective, legal perspective, and market perspective. Each perspective is constituted of a number of patent indicators, and we would calculate the correlation of these indicators to make sure they are independent variables. As two of the most frequent cooperation model, intra-industry collaboration implicate incremental innovation (Laursen et al, 2006) relative to radical innovation that is more likely to happen in the collaboration between firm and university. However, the result in market value may be reversed. Besides, interesting insights for related Research & Development (R&D) alliances and strategic management will be disclosed.

Mergers and Acquisitions to Cross Innovation Threshold: Evidence from Chinese Manufacturing Firms

Zhongjuan Sun and Jun Hou

Firms are resorting more and more to M&As to bridge the gap between where they are and where they would like to be in relation to innovation and performance. This paper investigates whether involvement in M&A triggers distinct patterns of innovative behaviour across firms, and whether this effect is conditional on the firms' factors. The analysis combines data from statistics of Chinese manufacturing firms and M&As from CSMAR dataset from 2001-2014. Based on the threshold regression model, we observe that M&As influence the probability that firms will begin innovation activities or persist with them, and these effects vary at different points in the distribution of firms' size and absorptive capability.

SESSION 5 / 2016-08-27 / 15:45-17:45

Research the Effects of R&D Labor Structure on Efficiency — In the Perspective Multiple Output

Yu Zhang

By using output distance function theory, we connect stochastic frontier analysis with ray production function so that it can be applied to the condition of output. Based on Chinese institution R&D data of 29 provinces from 2009 to 2014, we find that the porpotion of female R&D labor is related to efficiency as reverse U shape; the porporation of R&D labor owning doctor degree is positively related to efficiency, the porporation of R&D labor owning master degree is positively related to efficiency, the porporation of R&D labor owning bachelor degree is related to efficiency as reverse U shape.

Internal and External Knowledge Searching and Employee Creativity inScience Research and Technology Development Fields

Chaoying Tang

This study aims to distinguish the impact of knowledge searching on creativity in science research and technology development fields.Creativity is a process of knowledge combination in both fields. Internal and external knowledge searching is important in both fields especially in current open innovation generation. To be noted, the work natures of two fields are different. Employees in science research field aims to solve theoretical problem and invent new knowledge, while technology development has clear work goals and aims to apply new knowledge to solve practical problem. Thus it is supposed that the researchers' attention paid on external knowledge as well as the influence of external knowledge on creativity might be different in two fields. In science research field, without clear task goals and approaches it would be hard to integrate the external knowledge. Unlikely, in technology development field, the clear work goals would facilitate employees integrating external knowledge into on-hand tasks and thus contribute to employee creativity. The empirical result of 211employees from science research field and 257 employees from technology development field turned out that external knowledge searching increased employee creativity in technology development field rather than in science research field. Furthermore, employees' centrality of intra-team problem solving network moderated the relationship between external knowledge searching and creativity in science research field. Suggestions about employee creativity management in science and technology field were discussed.

Visual Intelligence and Knowledge Creation

Peder Veng Søberg

The premise for this paper is the need for research regarding how technical capabilities are created. Many conceptual models on knowledge creation have been proposed, but little is known about how their elements relates to different outcomes of innovation related activities and this hampers their use. Filling this gap will ease their operationalization. Knowledge creation theories provide scarce guidance of their operationalization in different contexts, thereby neglecting relevant contingencies to take into account. Theory emphasizes externalization and codification, but is unclear about what this means, since it can concern verbalization as well as various kinds of documentation. Thereby it is unclear how to store knowledge in the knowledge creation process. This is problematic given that knowledge creation processes often unfold over time, which necessitates adequate consideration and decisions concerning how to store knowledge so as to best enable knowledge creation over time - an element virtually left out in existing theory. Therefore the central question is: How do key elements of knowledge creation processes, relate to outcomes and contingencies?

This issue has been under explored particularly in relation to Chinese high tech start-ups. Given the lack of research on the phenomenon, given the strong entrepreneurial spirit in China, given the educational technology focus, given the huge R&D investments made by the Chinese government, and Chinese companies alike, it is particularly important to understand how Chinese companies develop technological competences within key industries. It would be particularly important to better understand the development of technological competences in relation to emerging technologies such as big data analysis, machine learning, and visual intelligence – areas where a few Chinese firms are likely global leaders of tomorrow. Therefore in contributing to filling the gap, this paper will develop and apply the theoretical framework in relation to one of these Chinese companies.

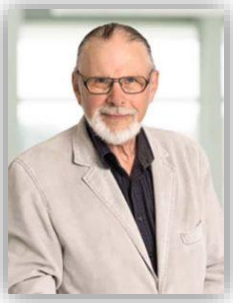
Much knowledge creation theory is based on complexity theory. In distinction to authors who have theorized about knowledge creation this paper finds conceptual inspiration within mathematical cognition (e.g. Amalric and Dehaene, 2016), since capabilities such as math and spatial thinking are relevant for creation of technical capabilities. Boisot and Child (1999) and Nonaka and Konno (1998) have provided key theoretical frameworks within knowledge creation. However, Nonaka and Konno (1998) outlined cases that fail to illustrate the SECI model. Boisot and Child (1999) illustrates the information space by analyzing China. The key contribution is the notion of fit where the implication is that different situations require different organization. One way to interpret the information space is that, the clan like organization is good for research, creativity and exploration. The fief like organization is good for entrepreneurship, whereas a rigid bureaucracy can be efficient, however, often at the expense of flexibility. However, the information space does not provide much practical guidance for how to actually drive knowledge creation processes in real companies. In this regard clockspeed is very often relevant to consider (Magnusson and Pasche, 2014), yet this is not reflected in knowledge creation theory.

Whose Hands to Put The Firms In? Equity Split and Performance of High-Technology Ventures

Jizhen Li, Yueheng Wang and Yanbo Wang

Considering the significant roles shareholders play in the development of high-technology ventures, the impact of equity split on venture performance is a crucial yet understudied topic. How would certain level of share concentration among shareholders affect venture performance? Under what circumstance would such patterns change? With a unique dataset of Chinese high-technology ventures, we reveal a curvilinear relationship between share concentration and venture performance, together with opposite moderating effects regarding shareholders' functional diversity and firm age. These findings suggest that when determining shareholder composition, the importance of equity split as well as its interaction with shareholders' functional roles and the organizational development stage should not be ignored.

CICALICS 2016
KEYNOTE SPEAKERS PROFILES



Bengt-Åke Lundvall is a professor in economics at Department of Business and Management at Aalborg University, Denmark. His research is organized around a broad set of issues related to innovation systems and learning economies. In the 1980s in close collaboration with Christopher Freeman, he developed the idea of innovation as an interactive process and coined the concept of national system of innovation.

Anthony Arundel is Professor of Innovation at the Australian Innovation Research Centre (AIRC) at the University of Tasmania and concurrently a Professorial Fellow at UNU-MERIT, a joint research institute of the United Nations University and the University of Maastricht in the Netherlands. His research interests include the innovative activities of firms and public administrative agencies, the transfer of knowledge between universities and firms, the socio-economics of biotechnology, environmental innovation, innovation policy, and the development of indicators for measuring innovation. He has been involved in the design and statistical analysis of several large-scale questionnaire surveys including the Community Innovation Survey (CIS) in Europe, several European Innobarometer surveys, the Australian Public Sector Innovation Indicators (APSII) survey and the Tasmanian Innovation Census. Recent research has focused on innovation in the public sector and on the use of innovation survey data for economic development purposes in regional Australia.

Roberta Rabellotti is Professor of Economics in the Department of Political and Social Sciences at the Università di Pavia in Italy. She has a Master of Science in Development Economics at the University of Oxford and a Doctor of Philosophy at the Institute of Development Studies, University of Sussex. Her areas of expertise are the economics of innovation, economic development and regional economics. Prof. Rabellotti regularly advises international organizations such as UNIDO,UNCTAD, IADB, OECD and the European Commission on questions related to economic development.

Jorge E. Niosi is a Professor in the Department of Management and Technology at the Université du Québec à Montréal, Canada. He is the author, co-author, editor or co-editor of 15 books and articles published in Argentina, Canada, France, the United Kingdom and the United States. One of his latest widely cited books deals with the subject of building successful national and regional innovation systems. He is a Fellow of the Royal Society of Canada and appears in the Canadian Who's Who, the International Authors and Writers Who's Who (UK) and Contemporary Authors (USA).

CICALICS 2016
KEYNOTE SPEAKERS PROFILES

Jeongmin Seong is a senior fellow at the McKinsey Global Institute, business and economics research arm of the organization. He leads MGI research teams in China, working on global as well as China-focused themes. He recently published an in-depth research on China's economic transition, China's choice: Capturing the 5 trillion productivity opportunity. He also focuses on technology and innovation themes. Prior to joining MGI, Jeongmin worked as an associate partner at McKinsey's Greater China office. He served companies around the world focusing on consumer-facing industries including consumer electronics, retail, and automotive. He also led McKinsey's emerging market growth service line. He joined McKinsey's Seoul office in 2001 and transferred to the Shanghai office in 2007, where he is currently based. Prior to joining McKinsey Shanghai office, Jeongmin worked as a product marketing manager at Dell China. He is a graduate of Harvard Business School where he received his MBA degree. He also graduated summa cum laude from Korea University's College of Politics and Economics.

Xielin Liu is a Professor at the School of Management University of Chinese Academy of Science and Director at the Research Center of Innovation and Information Management. He holds his PhD degree from Tsinghua University, his Masters from Chinese Academy of Science and his undergraduate degree from the Department of Physics at Peking University. Xielin Liu has co-authored numerous book chapters and several books in the field of innovation and innovation policy. He has also been extensively publishing in numerous international journals, among others including Research Policy, International Journal of Technology Management, Journal of Management Studies, and International Journal of Innovation Management. His current research interests include innovation policy, organisational R&D capabilities, industrial organization and reform in China, and management of technology-based enterprise.

Xiaolan Fu is the Founding Director of the Technology and Management Centre for Development (TMCD), Professor of Technology and International Development and Fellow of Green Templeton College at the University of Oxford. Her research interests include innovation, technology and industrialisation; trade, foreign direct investment and economic development; emerging Asian economies; innovation and productivity in UK/US. In 2016 she was appointed by the Secretary-General of the United Nations to the Governing Council of the Technology Bank for the Least Developed Counties and in 2015 - to the Ten-Member High Level Advisory Group of the UN Technology Facilitation Mechanism. She has published extensively in leading international journals. Her recent books include China's Path to Innovation, China's Role in Global Economic Recovery, and The Rise of Technological Power in the South. She is Editor-in-Chief of Journal of Chinese Economic and Business Studies, and serves on the editorial boards of numerous other international journals. She has been consultant for many international agencies and organizations (e.g. World Bank, OECD, European Commission, ILO, the Commonwealth Secretariat, UKTI and the Chinese government). She is also a Senior Research Associate at the University of Cambridge and Tsinghua University, and Visiting Professor at Fudan University.

CICALICS 2016
KEYNOTE SPEAKERS PROFILES

Shulin GU is Research Professor at the Institute of Policy and Management, Chinese Academy of Sciences. She serves also as Advisory Research Professor at the China Institute of Science and Technology Policy, Tsinghua University and Adjunct Professor at the School of Management School, Zhejiang University. In international academic sphere she has been Globelics (The Global Network for the Economics of Learning, Innovation and Competence Building System) Scientific Board member, and advisory board member of several international academic journals. She worked as Senior Research Fellow at UNU/INTECH (United Nations University Institute for New Technologies, now UNU/MERIT, Maastricht, the Netherlands) (1992—2000), and served as a Visiting Professor, School of Economics and Management, Tsinghua University (2000-2007). Her research areas include: S&T policy, S&T system reform in China, innovation and development studies, innovation policy, institutional change, inclusive and "green" innovation.

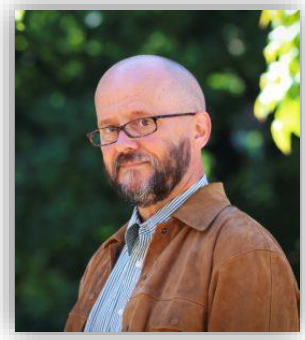
Olav Jull Sørensen is Professor of International Business at Aalborg University since 1991 and Head of the International Business Centre (IBC) since its establishment in 1984. His main research interests are: the internationalisation of companies, international/global industrial dynamics and value chains, internationalisation and innovation and government-business partnership. The topics are being researched in a developed market perspective as well as a developing/transition country perspective. He has been a lead scholar in research, capacity building and educational projects in Africa (Ghana and Tanzania), Eastern Europe (Lithuania and Russia), and Asia (Vietnam and China). He is a member of the Academic Council for Social Sciences, Aalborg University and the Council of the Department of Business and Management, and from 2010 to 2015, he has been the co-director of the Sino-Danish Center (SDC)-Innovation Management program in China comprising a graduate program, a research program as well as collaboration with the business community in China.

Dmitrij Slepniov is Associate Professor at the Department of Business and Management, Aalborg University, Denmark. He holds an MSc from the London School of Economics and a PhD from Aalborg University. Prior to starting his academic career, he held a position at the Confederation of Industries, fulfilling an analytical role as an economist and later as the Deputy Director of the Economics and Finance department. His current research work and publications focus on operations and innovation strategy, value chains and upgrading of Chinese firms, offshoring and outsourcing, servitization and service operations. His international experience includes teaching and research programs in close collaboration with industry in Denmark, Lithuania, Japan, S. Korea and China. From 2015, as part of the international team at the Sino-Danish Center (SDC) in Beijing, he has been appointed Head of Educational Programme in Innovation Management.

CICALICS 2016
KEYNOTE SPEAKERS PROFILES

Kazuyuki Motohashi is a Professor at the Department of Resilience Engineering Research Center and Technology Management for Innovation, Graduate School of Engineering, University of Tokyo, Japan. In his career, he had taken various positions at the Ministry of Economy, Trade and Industry of the Japanese Government, OECD and academia. His research interest covers a broad range of topics and methodologies, including economic and statistical analysis of innovation, economic impacts of information technology, international comparison of productivity, global infrastructure business strategy and national innovation system, science and industry linkages and SME innovation and entrepreneurship policy. Prof. Motohashi holds his Master of Engineering degree from the University of Tokyo, MBA from Cornell University and Ph.D. in business and commerce from Keio University.

Keun Lee is a Professor of Economics at the Seoul National University and the founding director of the Center for Economic Catch-up. He has been awarded the 2014 Schumpeter Prize for his monograph on Schumpeterian Analysis of Economic Catch-up: Knowledge, Path-creation and the Middle Income Trap (Cambridge Univ. Press, 2013) by the International Schumpeter Society. He is also the President of this Society. He is currently a member of the Committee for Development Policy at the UN, an editor of Research Policy, an associate editor of Industrial and Corporate Change, and a member of the governing board of Globelics. He had also served as the President of the Asia-Pacific Innovation Network. He obtained his PhD degree from the University of California, Berkeley. He had working experience at the World Bank, University of Aberdeen, and the East West Center, Hawaii. One of his most widely-cited articles—with more than 850 citations (Google Scholar)—is a paper on Korea's Technological Catch-up published in Research Policy (2001). His H-index by Google Scholar is now 31, with 75 papers with more than 10 citations.



John P. Ulhøi is Director of the Inter-university doctoral education collaboration DOME and Director of Studies (MBA) at Århus University, Denmark. He has been a recipient of various scholarly awards and honors (for best papers, scientific impact, inclusion in bibliographies, ect). He is presently Associate Editor of SJM, JEAS and JGER. He is past AoM-TIM Executive Board Member and present Board Member of Nordic Academy of Management and European Doctoral Association in Management and Business Administration. He serves as International Expert, Co-Chairman and/or Chairman of several international research funding institutions and as int. evaluator of university research centers and doctoral programs in different countries. He has 20 years of experiences with leading doctoral programs and has been teaching at different Danish and international universities (PhD students) in Finland, Portugal, Greece, Hungary and China.