

## F. Ted Tschang

50 Stamford Road  
**Lee Kong Chian School of Business**  
Singapore Management University  
Singapore 178899, Singapore  
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### ⌘ ACADEMIC EXPERIENCE

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**Singapore Management University**, Lee Kong Chian School of Business, Singapore.

<i>Coordinator, Sustainability Major</i>	<i>2019-present</i>
<i>Area Coordinator, Strategy and Organisation Group</i>	<i>2010-2013</i>
<i>Associate Professor of Strategic Management (tenured)</i>	<i>2009-present</i>
<i>Assistant Professor</i>	<i>2001-2009</i>

**Asian Development Bank Institute**, Tokyo.

<i>Visiting Scholar (full-time)</i>	<i>1999-2001</i>
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**United Nations University**, Institute of Advanced Studies, Tokyo.

<i>Research Associate, Visiting Fellow</i>	<i>1999 - 2000</i>
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**Harvard University**, Cambridge, MA, USA.

John F. Kennedy School of Government, Belfer Center for Science and International Affairs. <i>Predoctoral Fellow, Research Associate</i>	<i>1994 - 1996</i>
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### ⌘ EDUCATION

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<b>Carnegie Mellon University</b> , Pittsburgh, Pennsylvania	1996
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*Ph.D. in Public Policy and Management*, Heinz School of Public Policy and Management.

Research: Energy-economy modelling (climate policy)

Dissertation: Frameworks for industry materials flow analysis (industrial ecology)

<b>University of Nevada</b> , Reno, Nevada	1990
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*M.Sc. in Electrical Engineering*.

Research areas: Communications systems; Thesis: Applications of neural networks

<b>The Ohio State University</b> , Columbus, Ohio	1987
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*M.A in Economics* (doctoral core).

<b>University of Texas at Austin</b> , Austin, Texas	1986
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*B.Sc. in Electrical Engineering*.

Concentrations: Microelectronics; Economics (history and development)

## ⌘ RESEARCH INTERESTS

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- Digital Transformation (Work and Digital Media)
- Human-AI Interaction and Work
- Design Theory in Management
- Sustainability
- Industrial Development and Policy

## ⌘ JOURNAL PUBLICATIONS

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Tatarinov, K., Ambos, T. C., and Tschang, F. T. (2022). Scaling digital solutions: Ecosystem versatility. *Journal of International Business Studies*, 1-26.

Tschang, F. T., D'Ippolito, B., and Chaboud, M. C. (2022). Videogames and their material representations: prototyping interactive experiences for social and cognitive purposes. *Entreprises et Histoire*, (4), 138-156.

Tschang, F. T., and Almirall, E. (2021). Artificial intelligence as augmenting automation: Implications for employment. *Academy of Management Perspectives*, 35(4), 642-659.

Tschang, F. T. (2021). Platform-Dependent Entrepreneurs: Participants in an Expanding Universe of Platforms (Exchange). *Academy of Management Perspectives*, 35(4), 696-701.

Garbuio, M., Dong, A., Lin, N., Tschang, F., and Lovallo, D. (2018). Demystifying the Genius of Entrepreneurship: How Design Cognition Can Help Create the Next Generation of Entrepreneurs. *Academy of Management Learning & Education*.

Tschang, F. T., and Ertug, G. (2016). New Blood as an Elixir of Youth: Effects of Human Capital Tenure on the Explorative Capability of Aging Firms. *Organization Science*, 27(4), 873-892.

Sapsed, J., & Tschang, F. T. (2014). Art is long, innovation is short: Lessons from the Renaissance and the digital age. *Technological Forecasting and Social Change*, 83, 127-141.

Woodard, C.J., Ramasubbu, N., Tschang, F.T. and Sambamurthy, V. (2012). Design capital and design moves: the logic of digital business strategy. *MIS Quarterly*, 37(2): 537-564.

Porac, J., and Tschang, F. T. (2013). Unbounding the Managerial Mind It's Time to Abandon the Image of Managers As "Small Brains". *Journal of Management Inquiry*, 22(2), 250-254

Tschang, F. T. and J. Comas (2010). Developing virtual worlds: The interplay of design, communities and rationality, *First Monday*, Volume 15, Number 5, May 2010.

Tschang, F.T. and A. Goldstein (2010). "The Outsourcing of 'Creative' Work and the Limits of Capability: The Case of the Philippines' Animation Industry", *IEEE Transactions on Engineering Management*, 2010, 57, 1, 132-143.

Niosi, J. and F. T. Tschang (2009). "The Strategies of Chinese and Indian Software Multinationals: Implications for Internationalization Theory", *Industrial and Corporate Change*, 2009, 18, 2, 269-294.

Tschang, F. T. (2007). "Balancing the Tensions Between Rationalization and Creativity in the Video Games Industry", *Organization Science*, 18(6): 989-1005.

Tschang, F. T., and J. Szczypula (2006). "Idea Creation, Constructivism and Evolution as Key Characteristics in the Videogame Artifact Design Process", 24(4): 270-287, *European Management Journal*.

- Tschang, F. T. (2005). "Videogames as Interactive Experiential Products and Their Manner of Development", *International Journal of Innovation Management*, (Technology and Organisation: A Special Issue in Honour of Keith Pavitt), Vol. 9, No. 1 (2005) 103-131.
- Tschang F. T. (2005). "The Indian Software Industry: Past Progress and Future Prospects", *International Journal of Contemporary Sociology*, Vol 42(1).
- Koh, F., Koh., W., and F. T. Tschang (2005). "An Analytical Framework for Science Parks and Technology Districts with an Application to Singapore", *Journal of Business Venturing*, Volume 20, Issue 2, March 2005, Pages 217-239.
- Amsden A. and F. T. Tschang (2003). "A New Approach to Assess the Technological Complexity of Different Categories of R&D (with Examples from Singapore)", *Research Policy*, Volume 32, Issue 4, Pages 533-713 (April 2003).
- Quibria, M. G., S. N. Ahmed, Tschang F. T., M. Reyes-Macasaquit (2002). The Digital Divide: Determinants and Policies with Special Reference to Asia, *Journal of Asian Economics* 203: 1-15.
- Quibria M. G., Tschang F. T., and M. Reyes-Macasaquit (2002). "Information and Communication Technologies and Poverty", *Journal of the Asia Pacific Economy*, 7(3): 285-309.
- Tschang F. T., Chuladul M., and L. Thuy (2002), "Scaling Up Information Services for Development: A Framework of Increasing Returns for Telecenters", *Journal of International Development*, 14(1): 129-141.
- Tschang F. T. and J. Hirai (2002). "Comments on ICT Applications in an Indian Milk Collective," *Regional Development Dialogue*, UN Center for Regional Development.
- Baba Y. and F. T. Tschang (2001) "Product Development in Japanese TV Game Software: The Case of an Innovative Game", *International Journal of Innovation Management*, 5(4): 487-515, December 2001.
- Tschang, F. T., Kumar K., and Murthy S. (1998). "A Framework for Reaching Agreement on Climate Change: Morals, Self-interest and Strategy," *UNU Monitor, Global Environmental Change*, 7(4): 381-389.
- Frosch, R. A., Clark, W. C., Crawford, J., Sagar, A., Tschang, F. T., and A. Webber (1997). "The Industrial Ecology of Metals: A Reconnaissance," *Philosophical Transactions of the Royal Society*, (355) 1335-1347.
- Tschang, F. T., and H. Dowlatabadi (1995). "A Bayesian Technique for Improving the Prediction Quality of a Global Energy Model," *International Journal of Forecasting* (11) 1995.

## Books

- Tschang F. T., and Della Senta T. (2001). *Access to Knowledge: New Information Technologies and the Emergence of the Virtual University*, Tschang, F. T. and T. Della Senta eds., Elsevier.

## Chapters in books

- Tschang, F. T., Yamagata, H., Nair, & J. Almirall, E. (forthcoming). Integrating Skills-based and Task-based Framings into Organizational Views of AI Impact Assessment, *Handbook on Artificial Intelligence Impact Assessment*, Oxford University Press.
- Almirall, E., & Tschang, F. T. (2021). Covid-19 Accelerating the Dynamics of Artificial Intelligence Disruption. In *Leveraging Artificial Intelligence in Global Epidemics*, L. Gruenwald, S. Jain, S. Groppe (Eds.) (pp. 223-237). Elsevier.
- F. T. Tschang (2013). "Creative Industries: Socio-Economic Transformation as the New Face of Innovation", *Oxford Handbook of the Economics of the Pacific Rim*, N. Singh and I. N. Kaur eds.,

Oxford University Press.

J. Comas and F. T. Tschang (2013). "The Brief History, Tumultuous Present, and Uncertain Future of Virtual Worlds", chapter in *Changing the Rules of the Game: Economic and Management Issues in the Computer Games Industry*. S. Hotho and N. McGregor eds. Palgrave.

Vang, J., and Tschang, T. (2013). Unpacking the spatial organization of the US videogames industry: lessons for research on experience industry clusters. In *Handbook on the Experience Economy*. Edward Elgar Publishing.

Tschang, F. T. (2012). 'The global computer software sector,' Niosi, J., S. Athreye and T. Tschang, chapter, in F. Malerba and R. R. Nelson (eds), *Economic Development as a Learning Process: Variation across Sectoral Systems*. Edward Elgar.

Tschang, F. T. (2012). A comparison of the industrialization paths for Asian services: outsourcing industries, and implications for poverty alleviation, chapter in *Service Sector Reforms Asia-Pacific Perspectives*, Sauve, P., G. Pasadilla, M. Mikic eds. (Asian Development Bank Institute (ADBI)/UN Economic and Social Commission of the Asia Pacific (UNESCAP)). Co-published as ADBI working paper.

Tschang, F. T. (2010). Hong Kong's New Creative Industries: The Example of the Video Games Sector, chapter in *Innovation Policy and the Limits of Laissez-faire: Hong Kong's Policy in Comparative Perspective*, Douglas B Fuller ed., Palgrave Macmillan.

Tschang, F. T. (2009). New Media Sectors in the Chinese Creative Economy, in *Creative Industries in Asia and Europe*, Lily Kong and Justin O'Connor, eds., Springer-Verlag.

Tschang, F. T. and L. Xue (2008). China's New Media Sectors: Domestic Culture as Competitive Advantage, chapter, *Innovation in Greater China*, Editors, H. Rowen and L. Xue. Stanford Program on Regions of Innovation and Entrepreneurship.

Tschang, F. T. (2008). The Videogame Development Process in *Video Game History*, ed. Mark J. P. Wolf, Greenwood Press.

Tschang F. T. and L. Xue (2005). "The Chinese Software Industry", in *Underdogs to Tigers: The Rise and Growth of the Software Industry in Brazil, China, India, Ireland, and Israel*, A. Arora and A. Gambadella eds. Oxford University Press (Feb 2005).

Baba Y. and F. T. Tschang (2004). "Corporate Strategies in Information Technology Firms", in *The New Economy in the Asia-Pacific*, P. Drysdale ed., Routledge.

Tschang, F.T. (2003). "Knowledge Creation at Sub-Economy Levels: A New Framework for Innovative Problem-Solving Processes," in *China's Future in the Knowledge Economy: Engaging the New World*, B. Greewal, L. Xue, P. Sheehan and F. Sun eds., Center for Strategic Economic Studies and Tsinghua University Press.

Tschang F. T. (2001). "Towards More Accessible Global and Local Knowledge Systems", in *Access to Knowledge: New Information Technologies and the Emergence of the Virtual University*, Tschang, F. T. and T. Della Senta eds., Elsevier.

Tschang F. T., and T. Della Senta (2001). "Introducing the conceptual framework", in *Access to Knowledge: New Information Technologies and the Emergence of the Virtual University*, Tschang, F. T. and Della Senta T. eds., Elsevier.

Tschang F. T. (2001). "Characterizing the Emergence and Design of Virtual Universities", in *Access to Knowledge: New Information Technologies and the Emergence of the Virtual University*, Tschang, F. T. and Della Senta T. eds., Elsevier.

Szczypula J., F. T. Tschang, O. Vikas (2001). "New Course Curricula for the 21<sup>st</sup> Century: Learning

and Creating Knowledge in Virtual Settings”, in *Access to Knowledge: New Information Technologies and the Emergence of the Virtual University*, Tschang, F. T. and T. Della Senta eds., Elsevier.

Lo F. C., T. Morita, and F. T. Tschang (1999). “Sustainable Future of the Global System”, in *The Sustainable Future of the Global System*, F. C. Lo, T. Morita and S. Shishido editors, United Nations University, 1999.

Park, J., and F. T. Tschang (1999). “Higher Education for Sustainability in Asia”, in *Education for Sustainability*, Peter Lang Scientific Publishers, 1999.

Kopp, R., H. Dowlatabadi, and F. T. Tschang (1995). Distributional and Environmental Consequences of Taxes on Energy, *Advances in the Economics of Energy and Resources*, vol. 9, John R. Moroney, ed., JAI Press: Greenwich, Connecticut, 1995.

## Cases

Kotha, R. Tschang, T. Cheah, S. M. (2020). Smile again! Applying design thinking to improve the dental patient’s experience. Singapore Management University Case Center.

Tschang, F. T., and A. Wong (2016). Matchmove: Business Model Evolution. Singapore Management University Case Center.

## ⌘ COURSES TAUGHT

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(Undergraduate, unless mentioned otherwise)

### Recent courses:

Sustainability Management and Governance (short version for Keio University EMBA);  
Corporate Sustainable Product and System Design (experiential learning);  
Design Thinking and Innovation (MBA, DBA compressed format);  
Play in Invention and Design;  
Business Capstone (includes business model innovation and design thinking);  
Technology Trends (compressed format).

### Past courses:

Design Management (graduate/undergraduate, under partnership with SUTD),  
Industrial Competitiveness and Strategy in Asia;  
Qualitative Research Methods (graduate);  
The Videogame and Digital Media Industry;  
Management of Creative Industries;  
Technology and World Change;  
Introductory Economics.

Executive education: various short courses on design thinking, business models, megatrends. Clients included Sumitomo Chemicals, the national hospital system (administrators), a regional pharmaceuticals company.

## ⌘ RESPONSIBILITIES

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## **Singapore Management University**

### **Area Service**

- Coordinator, Sustainability Major (Undergraduate Business Degree) (from inception till current)
- Area Coordinator, Strategy and Organizations Group (2010-2013)
- Area recruitment committee, chair and member (various).
- Course coordinator, Technology and World Change; Business Capstone

### **School Level Service**

- Faculty Tenure, Renewal and Promotion committees: Member and chair (multiple).
- School undergraduate programs review committee.
- Committee, Singapore University of Technology and Design (SUTD)-SMU partnership.

### **University Service**

- Planning Committee for School of Information Systems proposal (Chair).
- Committee for university's experiential project-based learning initiative.
- Core curriculum committee (representative member).
- Committee for interdisciplinary research (member).
- Panel to discuss research partnerships, School of Social Sciences (member).
- Oversight committee for university incubator (member).
- Dean Search Committee (School of Economic and Social Sciences; School of Information Systems).
- Committee for university-wide learning content management system selection process (member).

### **Faculty Senate Service**

Senator and Member of Executive committee (elected) (2007-2009; 2012-2014)

### **Industry/Government Engagements**

- Short-term engagements with industry (various exploratory).
- Engagements with Government: National Council of Social Services (advisor), SG Innovate, Agency for Science Technology and Research (A\*STAR), Sector R&D Advisory Panel for National Research Foundation.
- University of California Santa Cruz – External consultant.
- World Bank/Foreign Investment Advisory Service (FIAS).

### **Grants/Research Contracts**

- National Research Foundation, Ecosystem Readiness Level (ERL) Framework – Phase 1 Pilot, SG Innovate and Singapore Management University (co-investigator)
- SMU individual research grant (2022-). Policy Decision-making Behaviors During Pandemics.
- SMU individual research grant (2016). A Theory of Design: Articulating game creation as design mechanisms.
- SMU individual research grant (2011). Play and Collaboration in Emerging Fields: A Multilevel Analysis of the Field of Virtual Worlds.
- Co-investigator, “Business Models for Interactive Digital Media Services and Policy Implications

for Regulators,” (co-investigator on grant to Nanyang Technological University), 2007, National Research Foundation, Singapore.

- Investigator, Savantas Policy Institute (project on Hong Kong’s Innovation Systems; final target audience: Central Policy Unit, HK) (2008-2009)
- SMU Lee Kong Chian Business School, 2006 individual grant, for continuing various streams of research.
- Investigator, World Bank (project on the Philippine’s IT-Enabled Services Industry; final target audience: Board of Investments, Government of the Philippines) (2004-2005)
- Investigator, Asian Development Bank Institute (project on China’s software industry) (2003)
- Singapore Management University, 2003 individual research grant, for study of the video game industry.
- United Nations University/Institute of Advanced Studies - project funding.