STEPHEN T. DOWNING

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Objectives & Research Themes

- Exploring the implications of interorganizational interdependence for competitive dynamics, from emergent awareness and acquisition motivations to resource flows and capability realignments
- Progressing the lens of strategic management research from predictive analysis within siloed contexts to prescriptive analysis across contexts by experimenting with integrative, wider-angle, and/or interdisciplinary empirical approaches to theory development

Education

PhD, National Chiao Tung University (Taipei & Hsinchu, Taiwan; ranked top 2 in Taiwan)   **2019**[*]

- *Concentration*: Strategic Management (3.94 / 4.00 GPA in 47 credit hours)
- *Dissertation*: "The Competitive Dynamics of Interorganizational Competition Networks: Evidence from Three Essays"
- *Adviser*: Assoc. Prof. Jin-Su Kang

MBA, National Chiao Tung University (Hsinchu, Taiwan)   **2012**

- *Concentration*: International Business Management

BA, Tulane University (New Orleans, LA, USA)   **2008**

- *Majors*: International Relations, Philosophy; *magna cum laude*, departmental honors

Research

Journal Articles

- Kang, J.-S., & Downing, S. (2015). "Keystone effect on entry into two-sided markets: An analysis of the market entry of WiMAX." *Technological Forecasting & Social Change*, *94*, 170–186.
- Kang, J. S., Chiang, C. F., Huangthanapan, K., & Downing, S. (2015). "Corporate social responsibility and sustainability balanced scorecard: The case study of family-owned hotels." *International Journal of Hospitality Management*, 48, 124–134.
- Kang, J. S., Kholod, T., & Downing, S. (2015). "Analysis of Russia's biofuel knowledge base: A comparison with Germany and China." *Energy Policy*, 85, 182–193.

Under Review

- Downing, S., Kang, J.-S., & Markman, G. "How Far Is Far Enough To Be Aware?" In the "Revise & Resubmit" stage of review at *The Academy of Management Journal*.

- Downing, S., Kang, J.-S., & Markman, G. "Opening The Black Box Between Corporate Social Responsibility (CSR) and Corporate Financial Performance (CFP) in Platform Competition." Under review at *The Journal of Economics and Management Strategy*.

Conference Papers

- Downing, S., Kang, J.-S., & Markman, G. (2017) "Emergent Awareness: Competitive dynamics beyond rivalry." 37th Annual Strategic Management Society Conference, Houston.

- Downing, S., Kang, J.-S., & Markman, G. (2017) "Competitive Dynamics: Of whom should you be aware?" 77th Annual Meeting of the Academy of Management, Atlanta.

- Downing, S., Kang, J.-S., & Hsu, C.L. (2016) "Network Risk: Assessing the threat of envelopment". 36th Annual Strategic Management Society Conference, Berlin.

- Downing, S. & Kang, J.-S. (2015) "Characteristics demand and platform competition: A game-theoretic argument for strategic CSR". 35th Annual Strategic Management Society Conference, Denver.
    - ❖ SMS best student paper award nominee

Teaching Cases

- Kang. J.-S., and Downing, S. (2015). "Cconma.com in South Korea: An innovative e-commerce platform". Ivey ID: 9B15M020. Ivey Publishing.

Working Papers & Current Research

- Downing, S., Kang, J.-S, & Lee, H. "Ripe Targets: Competitive Dynamics, Networks and Acquisitions." (A longitudinal study of the effect of competition network structure and proximity upon firms' acquisition motivations. Hypotheses are tested using U.S. tech firm acquisitions and competitive relations data.)

- Kang, J.-S., & Downing, S. "When Connectivity Doesn't Lead To Value: Evidence From An E-Commerce Platform's Social Network Quasi-Experiment" (A Bayesian structural time series analysis of the impact of an exogenous change in platform member transactional interconnectivity upon the total value created for different groups of platform members and the platform operator. Hypotheses are tested using a novel data set of customer attributes, purchasing behavior, and mobile social network connections from a Korean e-commerce platform.)

- Downing, S. "In One Door and Out The Other: Exploring Cyclic Dependence in Human Capital Flows." (A network-level analysis of the embeddedness and structural patterning drivers of interorganizational human capital flows. Hypotheses are tested using recent employee co-location and firm competitor relation data from the US tech sector.)

- Downing, S. & Kang, J.-S. "Parsing Value From Unobserved Networks: Relational Inference From Non-Relational Data". (A study of the effect of unobserved social embeddedness upon observable consumer behavioral similarities, offering marketers an opportunity to leverage their underutilized data for improved demand modeling. Hypotheses are tested using recent purchase and demographic data from a Korean retail e-commerce platform.)

- Kang, J.-S., Kwok, J., & Downing, S. "Coopetition and Knowledge Seeking Behavior." (A study exploring the impact of technological alliance membership, relative private/public benefit, and relative technological scope on firms' ultimate handling of the exploration-exploitation tradeoff in R&D. Empirical analysis utilizes EPO patent citations data.)

Grants & Awards

PhD Dissertation Research Grant   **2016 - 2017**

- Taiwan Ministry of Sci. & Tech., 105-2420-H-009-012-DR

Management Research Grant   **2015 - 2016**

- Taiwan Ministry of Sci. & Tech., 104-2410-H-009-050, under J.-S. Kang

PhD Scholarship   **2013 - 2016**

- Taiwan Ministry of Education full-time scholarship and living stipend

Technological & Research Competencies

Methodologies

- Agent-based modelling (discrete choice and game-theoretic simulations)
- Network analysis (exploratory visualization, ERGMs with extensions, REM, TNAM)
- Linear and generalized regression with extensions (OLS, GLM, HLM)
- Time series analysis (ARIMA, Markov switching models, Bayesian structural time series)
- Unsupervised learning and dimensionality reduction (topic models, clustering, tensor factorization)

Software & Technologies

- Scientific / statistical computing (R, Python, SAS, Matlab, LaTeX, SGE HPC shell scripting)
- Object oriented programming (Python, PHP)
- Relational databases (MySQL)
- Non-relational databases (limited familiarity with AWS DynamoDB, MongoDB, Neo4j)
- Frontend web development (HTML, CSS, JS, jQuery, D3, etc.)
- Backend web development (LAMP stack, PHP Yii2 framework)
- Cloud architecture (Amazon Web Services EC2, S3, RDS, Route53, SES, Lambda / Serverless, etc.)
- Version control (Git)

Professional & Entrepreneurial Experience

Co-Founder & Data Science Lead, **Choco.ly** (Taipei; startup CEM SaaS platform)   **2015 - 2018**

- Collaborated in systems design and full-stack web development
- Designed and implemented analytics suite
- Conducted customer interviews, observations for agile product development

Co-Founder & BDM, **Choco Design** (Taipei; startup digital design agency)   **2014 - 2015**

- Managed new business development, account prospecting, negotiations

Sales Account Manager, ACTi Corporation (Taipei; IP camera mfg.)   **2012 - 2013**

- Managed Nordic territory distributor sales during key product lines overhaul
- Transitioned channel partners onto new policy terms, nurtured key accounts to accelerate growth while minimizing cannibalization

Marketing Intern, **PPG Industries** (Shanghai & Taipei; fiberglass joint venture)   **2011 - 2011**

- Completed analysis of Chinese fiberglass export data to inform APAC market development initiatives for the Pittsburgh Formosa Group joint venture

Public Finance Consulting Intern, The PFM Group (New Orleans; public finance)   **2007 - 2007**

- Drafted budgeting for outcomes and best practices recommendations for City of New Orleans revenue structure and generation
- FY2008 budget results: Cut expenditures by $8.1 million and eliminated $48 million in unnecessary funding requests

Teaching Experience

Guest Lecturer, National Chiao Tung University (Taipei, Taiwan)   **2017**

- Introducing the R statistical computing language for network analysis (graduate level)

Guest Lecturer, **Shih Chien University** (Taipei, Taiwan)   **2017**

- Digital Marketing (graduate level)
- Research Methodology (undergrad level)
- International Business Management (undergrad level)

Teaching Assistant, **National Chiao Tung University** (Hsinchu, Taiwan)   **2011**

- Microeconomics for Business, NCTU Global MBA program (graduate level)

ESL Teacher, **Hess International Educational Group** (Hsinchu, Taiwan)   **2009 - 2010**

- English as a second language courses for elementary, middle, and high school

Presentations

- "Competitive Dynamics: Of Whom Should You Be Aware?" August 2017, the 77th Annual Academy of Management Conference, Atlanta

Affiliations

- Academy of Management   **2016 - Pres**
- Strategic Management Society   **2016 - Pres**
- Beta Gamma Sigma   **2012 - Pres**

Eligibility

- Student Status: 5th year PhD candidate (completed course work and qualifying exams; pending dissertation and oral defense)
- Residency: Taiwan, R.O.C. (student alien resident certificate; annual renewal)
- Citizenship: USA