

# STEPHEN T. DOWNING

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📖 Research: <https://sdownin.github.io>  
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## Research Focus

- Competitive dynamics, especially competitor identification, market entry and acquisitions
- Interorganizational networks, exploring cross-industry encounters and multimarket interdependence

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## Education

**Ph.D., National Chiao Tung University** (ranked top 2 in Taiwan; AACSB) **2020\***

- Concentration: Strategic Management (Decision Sciences core 3.94 / 4.00 GPA)
- Dissertation: “Red in Tooth and Claw: Exploiting Competitive Embeddedness for Identification of Threats and Opportunities”
- Adviser: Jin-Su Kang

**Visiting Research Scholar, Texas A&M University** *spring 2019*

- Adviser / Host: Albert Cannella, Jr.

**Visiting Research Scholar, University of Kentucky** *fall 2019*

- Adviser / Host: Walter Ferrier

**M.B.A., National Chiao Tung University** (ranked top 2 in Taiwan; AACSB) **2012**

- Concentration: International Business Management

**B.A., Tulane University** **2008**

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

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## Research

### Published & Forthcoming

- 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., Kholod, T., & Downing, S. (2015). “Analysis of Russia’s biofuel knowledge base: A comparison with Germany and China.” *Energy Policy*, 85, 182–193.
- 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.

### Under Review

- Downing, S., Kang, J.-S., & Markman, G. “What you don’t see can hurt you: Awareness cues to identify tomorrow’s rivals.” (2<sup>nd</sup> R&R at *Academy of Management Journal*)

- Kang, J.-S., Downing, S., & Markman, G. “Attacks, Buyer Engagement, and Target Response-Nonresponse Spectrum.” (Pending submission)

### Conference Papers

- Downing, S., Kang, J.-S., & Markman, G. (2017) “Emergent Awareness: Competitive dynamics beyond rivalry.” 37<sup>th</sup> Annual Strategic Management Society Conference, Houston.
- Downing, S., Kang, J.-S., & Markman, G. (2017) “Competitive Dynamics: Of whom should you be aware?” 77<sup>th</sup> Annual Meeting of the Academy of Management, Atlanta.
- Downing, S., Kang, J.-S., & Hsu, C.L. (2016) “Network Risk: Assessing the threat of envelopment”. 36<sup>th</sup> Annual Strategic Management Society Conference, Berlin.
- Downing, S. & Kang, J.-S. (2015) “Characteristics demand and platform competition: A game-theoretic argument for strategic CSR”. 35<sup>th</sup> 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 & Ongoing Research

- Downing, S., Kang, J.-S., & Lee, H. “Ripe Targets: Multimarket Contact, Networks and Acquisitions.” (A longitudinal study of the effect of network-level MMC configurations upon firms’ acquisition motivations and target selection. Hypotheses are tested using U.S. tech firm acquisitions and competitive relations data.)
- Downing, S. & Kang, J.-S. “In One Door and Out The Other: Unpacking 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 employee co-location and firm competitor relation 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. & 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 detailed 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

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<b>Ph.D. Student Research Abroad Program Grant</b>	<b>2019</b>
<ul style="list-style-type: none"> <li>One-year international research and travel stipend from National Chiao Tung University and Taiwan Ministry of Education</li> </ul>	
<b>Best Ph.D. Thesis Award</b>	<b>2018</b>
<ul style="list-style-type: none"> <li>Top prize and monetary award, 11<sup>th</sup> annual Topco Scientific Co. Thesis Symposium, Taiwan (<a href="http://www.tmi.org.tw/2018/08/2018.html">http://www.tmi.org.tw/2018/08/2018.html</a>, story in Chinese)</li> </ul>	
<b>Ph.D. Dissertation Research Grant</b>	<b>2016 - 2017</b>
<ul style="list-style-type: none"> <li>Taiwan Ministry of Science &amp; Technology, 105-2420-H-009-012-DR</li> </ul>	
<b>Management Research Grant</b>	<b>2015 - 2016</b>
<ul style="list-style-type: none"> <li>Taiwan Ministry of Science &amp; Technology, 104-2410-H-009-050, under J.-S. Kang</li> </ul>	
<b>Ph.D. Scholarship</b>	<b>2013 - 2016</b>
<ul style="list-style-type: none"> <li>Taiwan Ministry of Education scholarship</li> </ul>	
<b>Dimerco Corp. M.B.A. Leader Award</b>	<b>2011</b>
<ul style="list-style-type: none"> <li>Monetary award for ranking top 3 in MBA class</li> </ul>	
<b>Tulane Distinguished Scholar Award</b>	<b>2004 - 2008</b>
<ul style="list-style-type: none"> <li>Undergraduate academic half-scholarship</li> </ul>	

## Teaching Experience

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<b>Teaching Assistant, National Chiao Tung University</b> (Taipei, Taiwan)	<b>2018</b>
<ul style="list-style-type: none"> <li>Strategic Management 6157 – section evaluation: 4.81 / 5.00 (22 students)</li> </ul>	
<b>Guest Lecturer, National Chiao Tung University</b> (Taipei, Taiwan)	<b>2017 - 2018</b>
<ul style="list-style-type: none"> <li>Network Strategies: Methods and Applications 6167 – tutorial: “Introducing the R statistical computing language for network analysis”</li> </ul>	
<b>Guest Lecturer, Shih Chien University</b> (Taipei, Taiwan)	<b>2017</b>
<ul style="list-style-type: none"> <li>Digital Marketing (graduate level)</li> <li>Research Methodology (undergrad level)</li> <li>International Business Management (undergrad level)</li> </ul>	
<b>Teaching Assistant, National Chiao Tung University</b> (Hsinchu, Taiwan)	<b>2011</b>
<ul style="list-style-type: none"> <li>Microeconomics for Business, NCTU Global MBA program</li> </ul>	

## Professional & Entrepreneurial Experience

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<b>Co-Founder &amp; Data Science Lead, Choco.ly</b> (Taipei; startup CEM SaaS platform)	<b>2015 - 2018</b>
<ul style="list-style-type: none"> <li>Designed and implemented analytics suite</li> </ul>	

- Iterated customer interviews and user observations, testing hypotheses via lean startup
- Collaborated in systems design and full-stack web development

**Co-Founder & B.D.M., 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**

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

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

- 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

## Quantitative Research Competencies

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Experienced in data science and big data methods that advance management research by facilitating greater data granularity and scope, including the following software and technologies:

### Methods

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

### Software & Technologies

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

## Presentations

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- Downing, S., Kang, J-S. & Markman, G.D. 2017. Competitive dynamics: Of whom should you be aware? *Academy of Management Meeting*, Atlanta, GA.

- Downing, S., Kang, J-S. & Markman, G.D. 2017. Emergent awareness: Competitive dynamics beyond rivalry. *Strategic Management Society*, Houston, TX.
- Downing, S., Kang, J-S. & Hsu, C.L. 2016. Network Risk: Assessing the threat of envelopment. *Strategic Management Society*, Berlin.
- Downing, S., Kang, J-S. 2015. Characteristics demand and platform competition: A game-theoretic argument for strategic CSR. *Strategic Management Society*, Denver.

## Memberships

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|--------------------------------|--------------------|
| • Academy of Management        | <b>2016 - Pres</b> |
| • Strategic Management Society | <b>2016 - Pres</b> |
| • Beta Gamma Sigma             | <b>2012 - Pres</b> |

## Languages

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- English: Native
- Chinese (Mandarin): Intermediate