PATRICK MCHUGH

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PERSONAL STATEMENT

Experienced manager, teacher, researcher, venture founder/executive and investor informed by an award-winning technology industry career focused on intrapreneurial and entrepreneurial endeavors and by more recent roles as a professor and academic administrator at the Brown University School of Engineering (SoE). Highly rated professor of finance and entrepreneurship at the undergraduate, graduate and executive levels. Former Director of the Brown SoE Innovation Management & Design Engineering Group, academic and administrative director of the Master Program in Innovation Management & Entrepreneurship (<u>PRIME</u>) and academic and administrative director of the IE Brown Executive MBA program. Faculty affiliate of the Institute at Brown for Environment & Society. Research interests focus on decision making, primarily in innovative and sustainability contexts. Research measures per Google Scholar as of April 2024: h-index = 8; i10-index = 7; total citations = 1,942. Former member of the Cherrystone Angel Group and current board member of Fractal Antenna Systems and STED Ltd.

EDUCATION

Ph.D., Bentley University (AACSB, EQUIS accredited), Waltham, MA (Management, GPA 3.75) 2013

- Dissertation: "Ties that bind: A network perspective on university spinouts"
- Thesis Chair: Susan Newell, University of Sussex (formerly Director of Bentley University PhD program)

• 2012 Association of University Technology Managers (AUTM) Graduate Student Literature Review Prize scholarship winner

MBA, Harvard Business School, Boston, MA (Management, GPA N/A)	1987
M.S., Columbia University, New York, NY (Engineering, GPA 3.85)	1982
B.S., Columbia University, New York, NY (Engineering, GPA 3.85)	1981

TEACHING EXPERIENCE

BROWN UNIVERSITY

Professor of the Practice, School of Engineering

- Promotion to Professor of the Practice (from Lecturer) in April 2015 by the School of Engineering Dean/tenured faculty and the University's Tenure, Promotion and Appointments Committee (TPAC). For appointment as a Professor of the Practice a candidate must be: "A senior professional...who has achieved a national or international reputation in her/his professional field and who has demonstrated effectiveness as a teacher and a leader in the field."
- Courses (last 5 years):
 - Business Engineering Fundamentals I (financial management & strategy graduate course delivered synchronous online). Student evaluations of teaching (SET) overall effectiveness rating (weighted average): 4.6 where 5 is the top rating.
 - *Global Entrepreneurship* (strategy & entrepreneurship graduate course delivered synchronous online). Class includes an immersion experience to Silicon Valley. To date (since 2011) ten peer reviewed research papers and cases produced by student teams from this class were accepted at academic conferences. SET overall effectiveness rating (weighted average): 4.5 where 5 is the top rating.

2011 -

- Courses (5+ years ago)
 - *Introduction to the Entrepreneurial Process* (undergraduate entrepreneurship course delivered face-to-face). SET overall effectiveness rating: 1.3 where 1 is the top rating.
 - *Corporate Innovation Strategy* (executive course delivered online & face-to-face). SET overall effectiveness rating: 4.2 where 5 is the top rating.
 - *Finance and Strategy for Technologists* (executive course delivered online & face-to-face). SET overall effectiveness ratings: 1.3 where 1 is the top rating.
 - *Entrepreneurial Opportunities in Developing Regions* (executive course delivered online & face-to-face, including a week-long experiential learning exercise in the Cape Town, South Africa townships).
 - Executive MBA Global Seminar Series.
 - Executive MBA Capstone.

UNIVERSITY ADMINISTRATIVE EXPERIENCE

BROWN UNIVERSITY, Providence, RI

2011 - 2024

Director, School of Engineering Innovation Management & Design Engineering Group (Dept.)

- Led group's establishment with responsibility for undergraduate engineering courses in entrepreneurship/design engineering and master degree programs in innovation & entrepreneurship, design engineering and technology leadership.
- Appointed founding group director (3-year appointment) in 2021; more than 37 faculty affiliated with group.
- Worked to build the group's research portfolio and identity.

Administrative & Academic Director, Masters in Innovation Management & Entrepreneurship

- Appointed on August 2019 for a five year term at the request of the Provost and Engineering Dean.
- Established objectives to grow the program's enrollment, improve program academic standing, and establish a sustainable annual revenue of greater than \$6 million by the end of the appointment period.
- Achieved by 2024 \$6.3 million of annualized revenue with 90+ students (from 19 students when started), providing greater than \$4.0 million of annual free cash flow after program expenses.
- Executed an organizational restructuring adding eight new faculty, a newly established Director of Enrollments & Marketing and a newly established Director of corporate partnerships (PRIME@Work initiative).
- Instituted a curricular restructuring adding a required summer term and internship offerings.
- Extended the program's portfolio to include a blended delivery option (online and face-to-face).

Administrative & Academic Director, IE Brown Executive MBA

- Achieved 3rd in world ranking from *<u>The Economist</u>*, June 2020.
- Achieved #1 worldwide for diversity, #1 worldwide for executive profile, #3 worldwide career outcomes in the 2021 QS Executive MBA rankings.
- Achieved top 10 rating in Ivy Exec's 2016, 2017, 2018 and 2019 Best Joint Executive MBA Programs for reputation, and curriculum (rated 18th overall globally in 2019).
- Chaired Faculty Committee directing curriculum design and faculty appointments.
- Recruited and managed a pool of more than 24 faculty engaged in program delivery.
- Chaired Admission Committee.
- Drove strategic program positioning in coordination with our Leadership Advisory Committee and marketing team.
- Managed relationship with IE Business School in Madrid, Spain.
- Led effort for the unanimous university approval of this joint MBA degree offering, the first business degree and joint degree offered by Brown University.
- Established and recruited executives for Leadership Advisory Committee.
- Managed successful external certification review by the New England Association of Schools & Colleges (NEASC).

ENTREPRENEURIAL EXPERIENCE

STED Ltd, Providence, RI 2020 -Emerging provider of a hardware and services offering to improve residential solar deployment outcomes **Board member and Co-founder.** BITINSIGHT, Belmont, MA 2007-2011 Enterprise decision support consultancy leveraging the cloud, crowd and social media **Managing Director and Co-founder** Conceptualized/developed the initial product/service offering. Sold and managed client engagements at small/medium enterprise customers. V-SECURE TECHNOLOGIES, Mahwah, New Jersey 2004-2007 Venture capital funded developer of one of the first intrusion prevention systems **Senior Vice President Sales and Service** Exit: acquisition by Radware (NASDAO: RDWR). • Built/managed the sales and technical service team driving initial deployments at enterprise accounts including the Philadelphia Stock Exchange, Continuum Health, and US DOT. SPEARHEAD SECURITY TECHNOLOGIES, Cambridge, MA Venture capital funded developer of a silicon embedded (FPGA) "gap technology" security solution President

- Exit: asset acquisition. ٠
- Built marketing, sales & technical team driving initial deployments at enterprise accounts.

RADGUARD, Bedford, MA

Venture capital funded developer of one of the first virtual private networks (VPNs) President

- \$95 million acquisition offer by AVAYA (NYSE: AV).
- Managed firm bankruptcy in 2001.

INTRAPRENEURIAL EXPERIENCE

VERIZON/GTE - BBN Technologies, Cambridge, MA

Call center analytic services offering leveraging "big data," speech recognition and natural language processing Director of Business Development, Call Center Analytics Practice (continues as Avoke Analytics)

- Recipient of Best New Product award (trade press).
- Structured and negotiated strategic technology licensing agreements with IBM and Nortel.
- Recipient of the GTE Internetworking Chairman's Leadership Award.

HOUGHTON MIFFLIN SOFTWARE DIVISION, Cambridge, MA

Linguistic software and language model offering

Chief Marketing Officer & Director of Product Management, Linguistic tools & applications

- Managed product planning and technology licensing agreements with OEM clients.
- Closed more than 10 international technology acquisitions. •

2001-2003

1999-2001

1993-1999

1991-1993

INTERNATIONAL BUSINESS MACHINES CREDIT CORP. (IBM)

Online mortgage origination and securitization offering **Fintech Product Manager**

- Introduced and grew a nationwide, online, financial services offering to more than \$400 million in assets under management in less than one year.
- Created a mortgage-backed security offering.

SW DEVELOPMENT & PRODUCT MANAGEMENT EXPERIENCE

DIGITAL EQUIPMENT CORPORATION, Maynard, MA

Center of Excellence for Artificial Intelligence (AI).

AI Product Marketing Manager

• Managed portfolio of AI based software offerings with more than \$500 million total leveraged revenue.

INTERNATIONAL BUSINESS MACHINES (IBM)

Semiconductor Components Division.

Engineer

• Designed an AI software application for manufacturing line reliability management.

RESEARCH PUBLICATIONS & CONFERENCE PAPERS

Published peer review papers:

- 1. **McHugh, P.**; Ma, M. Rare but problematic: Tesla's rare metal supply chain headache. *The Case Journal*. April 2023
- 2. McHugh, P.; Perrault, E. <u>Of supranodes and socialwashing: Network theory and the responsible</u> <u>innovation of social media platforms</u>. *Cogent Social Sciences*. 8:1. October 2022 (cited 8 times)
- 3. McHugh, P.; Baumgarthuber, C.; Gafo, I.; and Taub, R. <u>Optimizing student satisfaction measures through</u> <u>teacher presence interventions & contextual awareness in an online course</u>. *Journal of Higher Education Theory & Practice*. Fall 2020. (cited 5 times)
- 4. McHugh, P.; Perrault, E. Accelerating time: The effects of social pressures and regulation on board gender diversity post-IPO. *Journal of General Management*. Spring 2018 (cited 7 times)
- 5. Perrault, E.; McHugh, P. Toward a life cycle theory of board evolution: Considering firm legitimacy. *Journal of Management and Organizations*. 21:15:627-649. September 2015 (cited 33 times)
- 6. McHugh, P; Jackson, A. Prediction market accuracy: The impact of size, incentives, context and interpretation. *Journal of Prediction Markets*. 6:2:22-46. September 2012 (cited 18 times)
- 7. Culnan, M; **McHugh, P**; and Zubillaga, J. How large U.S. companies can use Twitter and other social media to gain business value. *MIS Quarterly Executive*. 9:4: 243-259. December 2010 (cited 1,419 times)

Refereed conference papers:

1. McHugh, P.; Duane, J.; Aamodt, A. UPOB at Innovative Firms and Startups: Challenges for AI Corporate Governance. 2024 Eastern Academy of Management Conference

1988-1991

1988-1991

1982-1987

- 2. McHugh, P.; Ma, Marco. Financing & valuing a rooftop solar installation. 2024 Eastern Academy of Management Conference
- 3. McHugh, P.; Ma, Marco. Miswired: Modelling returns and addressing concerns with a residential solar installation. 2024 Eastern Academy of Management Conference.
- 4. McHugh, P.; Aamodt, A. Neo-tribalism and Organizational Studies Research: A UPOB Studies Agenda. 2023 Eastern Academy of Management Conference
- 5. McHugh, P.; Leventon, L. Academic dishonesty, social contracts, unethical pro-organizational behavior and neo-tribalism: University student preparation, performance and cheating in an online learning environment. 2023 Eastern Academy of Management Conference
- 6. **McHugh, P.**; McCoy, B.; & Gupta, S. Power to the people in Newport, Rhode Island. 2022 Eastern Academy of *Management Conference*. Runner up for best case submission prize
- 7. McHugh, P.; Ma, Marco. Tesla's lithium ion battery gigafactory investment decision dilemma. 2021 Eastern Academy of Management Conference. Runner up for best case submission prize
- 8. McHugh, P.; Perrault, E. Cognitive framing constructs in corporate sustainability decision making. 2021 Eastern Academy of Management Conference
- 9. McHugh, P.; Duane, J. Fitting the mold: A Twitter posting linguistic analysis of CEO archetypes. 2021 Eastern Academy of Management Conference
- 10. McHugh, P.; Perrault, E. Supranode implications for social media network structures and outcomes. 2020 *Eastern Academy of Management Conference*
- 11. McHugh, P.; Cheung, E.; Lovett, J. Xiaomi: U.S. expansion? 2020 Eastern Academy of Management Conference
- 12. McHugh, P.; Baumgarthuber, C.; Gafo, I.; Taub, R. Optimizing student satisfaction measures through teacher presence interventions and contextual awareness in an online course. 2020 Eastern Academy of Management Conference
- 13. Perrault, E.; McHugh, P.; Guang, A.; Zsom, A. Tipping points: When are little things just little things? 2020 Academy of Management Conference
- 14. McHugh, P.; Macaruso, E.; Smorszczewski, M. The social media lives of top CEOs. 2020 International Conference on Social Media and Society
- 15. McHugh, P.; Demir, A.; Marzak, A.; Wang, Y. L'Occitane & Brazil. 2019 Eastern Academy of Management Conference. Runner up for best case submission prize
- 16. McHugh, P.; Dahl, B. Challenging legitimacy: Strategic actions and the blending of liberal arts and management in an MBA curriculum. 2018 Academy of Management Conference
- 17. Perrault, E; McHugh, P. The tipping point revisited: Toward a theory of issue diffusion in technologymediated social networks. 2017 Academy of Management Conference
- 18. McHugh, P.; Perrault, E. Who cares? Changes in the firm's legitimizing stakeholders and board composition pre- and post- IPO. 2016 Academy of Management Conference

- 19. McHugh, P. Firm provenance and strategic action in equity crowdfunding. *Poster presentation, 2016 Social Media & Society International Conference*
- 20. McHugh, P.; Lorhpipat, C.; Chen, S. Acknowledgement networks as a mechanism to inform our understanding of the significance of various stakeholders to the success of extraordinary entrepreneurs in the U.S. and China. 2015 Academy of Innovation & Entrepreneurship Conference
- 21. McHugh, P.; Alexiadis, C.; Bi, L.; Rathi, A. Entrepreneurs as academics: Motivations for active entrepreneurs to switch to academia. 2015 Academy of Innovation & Entrepreneurship Conference
- 22. McHugh, P.; Perrault, E. Capital stakeholders, legitimacy and board diversity: An analysis of venture-backed technology firm boards. 2014 Gender, Work and Organization 8th Biennial International Interdisciplinary Conference
- 23. Andersson, S.; Beekhuis, J.; Massand, R.; McHugh, P.; Shin, Y. Bounded entrepreneurship and intrapreneurial performance in Sweden. 2014 European Conference on Innovation & Entrepreneurship.
- 24. Crawford, E.; **McHugh, P**. Toward a metatheory of board evolution: Roles and composition across the firm's life cycle. *2013 Academy of Management Conference*
- 25. McHugh, P. Hub history logic mechanisms and early-stage university spinout network growth. 2013 Academy of Management Conference
- 26. McHugh, P; Stevens, A. Academic entrepreneurship and the management of portfolios of knowledge transfer activities. 2013 Academy of Management Conference
- 27. McHugh, P.; Ghofrani, A.; Lengerich, M.; Romanos, R. Venturing afield: Distance, state boundaries and venture capital investment. 2013 Global Entrepreneurship Monitor Conference
- 28. McHugh, P.; Whipple, C.; Yang, X. Failing to succeed: A network theoretic comparison of global accelerators. 2013 European Conference on Innovation & Entrepreneurship (cited 6 times)
- 29. Culnan, M.; **McHugh, P.**; and Zubillaga, J. The Social Face of the Fortune 500: How America's Largest Firms Use Web 2.0 Applications to Communicate with their Customers. *ICIS SIM Academic Workshop on Enterprise & Industry Applications of Web 2.0, Phoenix, Arizona, December, 2009*

Patents:

- 1. McHugh, P. Non-Grid and Hybrid Sourced Energy Marketplace. Patent approved fall 2024.
- 2. Peterson, P.; Bernhard, S.; Tenney, Y.; McCarthy, D.; McHugh, P.; Dick, P. System and method for assessing a call center. Patent number 6922466, 2005 (referenced 264 times)
- 3. McHugh, P.; Peterson, P.; Dick, P. System and method for processing and collecting data from a call directed to a call center. Patent number 6700972, 2004 (referenced 137 times)

Working papers sustainability:

- 1. Power to the people in Newport, Rhode Island. Target submission The Case Journal, fall 2024.
- 2. Miswired: Modelling returns and addressing concerns with a residential solar installation. *Target submission The Case Journal, fall 2024.*
- 3. Brown University Dry Bridge Solar Farm journey. Date collection, fall 2024.

Working papers decision making & unethical pro-organizational behavior (UPOB):

- 1. Digital nudges: A systematic narrative review & taxonomy. Under review *Behavior & Information Technology*.
- 2. UPOB at innovative firms and startups: Challenges for AI corporate governance.
- 3. Neo-tribalism as an explanatory variable: Increasing power in organizational studies empirical research.
- 4. Candidate digital transparency and voter decision making.
- 5. Digital nudges within e-commerce design: A consumer perspective.
- 6. Preferences in e-commerce: A designer's perspective.

Invited presentations:

- 1. University engagement in sustainability. Plug & Play Silicon Valley 2024 Sustainability in Fashion Conference
- 2. Making your faculty rock when teaching online. Executive MBA Council 2019 Conference
- 3. Making experiential learning initiatives meaningful for the executive audience lessons learned from the IE Brown EMBA program. *Executive MBA Council 2018 Conference*
- 4. The Craft of Teaching. Eastern Academy of Management 2018 Conference Junior Faculty Consortia
- 5. Design thinking and innovation in a corporate environment. 2018 Sungkyunkwan University in Korea graduate student visit lecture
- 6. The social life of capital and implications for equity crowd funding. 2017 CUNEF Universidad Complutense de Madrid lecture
- 7. Upping the odds of international partnership success: lessons learned from the IE Business School, Brown University experience. *Executive MBA Council 2017 Conference*
- 8. Integrating Humanities in the IE Brown MBA Program. Executive MBA Council 2016 Conference
- 9. Leveraging crowd sourced knowledge and capital in an entrepreneurial environment. 2016 Berklee College of Music Graduate School Valencia, Spain lecture
- 10. Building Institutional Partnerships. 2015 UPCEA 2015 Conference

THESIS & PROJECT ADVISING (EXEMPLARS)

- 1. AI personalized LLM development. Independent study 2023 2024
- 2. Digital nudges: An investigation of both consumer and designer perspectives. *Bentley University Ph.D. dissertation advisor, 2022-2023*
- 3. Best practices for ESG criteria in public infrastructure solicitations: A case study of U.S. offshore wind. *IE Brown EMBA capstone thesis, 2022*
- 4. How to fund RI's public pension plans for future solvency. IE Brown EMBA capstone thesis, 2021
- 5. Transformational business opportunities within the Western Cape wine industry in South Africa. *IE Brown immersion experience project, 2019*
- 6. Entrepreneurial Finance in Cape Town, South Africa. IE Brown immersion experience project, 2019
- 7. Cape Town Housing: Informal backyard development. IE Brown immersion experience project, 2019
- 8. Mindshift: Energy in Khayelitsha, Cape Town, South Africa. IE Brown immersion experience project, 2018

GRANTS & FUND RAISING

- Lassonde Foundation \$15,000,000 financial commitment to renovate and rename the Brown Prince Laboratory, home of the School of Engineering Innovation Management & Design Engineering Group and Brown Design Workshop (former Executive MBA student's family foundation), 2024
- Lassonde Foundation \$225,000 grant for translational science/entrepreneurship support, 2021
- Headwall Photonics Inc. \$4,500 per year grants, 2013, 2015, 2021
- Brown University \$3,500 research grant to develop creativity course materials, 2013

PROFESSIONAL SERVICE AND PRACTICE

Membership:

- Fellow of the *Royal Society of Arts* (Silver Medal award winner Columbia University)
- Member Eastern Academy of Management

Service – faculty/staff hiring, appointments & review:

- Search committee chair: IMDE group faculty (4), 2022 2024
- Search committee member: Engineering Dean, 2021; Masters of Technology Leadership Program Director, 2018; School of Professional Studies Associate Dean, 2015
- Faculty appointments committee chair (2): 2023
- Faculty promotions committee member (2): 2021
- Academic appointment external reviewer: Boston University, 2021
- Selection committee member: Brown University Archambault Teaching Award, 2014
- Teaching performance reviews (2): 2023

Service - research/professional associations:

- Brown University liaison: Eastern Academy of Management, 2019 -
- Journal paper reviews: The Case Journal, 2020 & 2023; FIIB Business Review, 2022; Social Media & Society, 2021; Small Business Economics: An Entrepreneurship Journal, 2014

- Conference paper reviews: *Eastern Academy of Management (10), 2020 2024; HICSS (1), 2020; Academy of Management (12), 2013 2014; International Conference on Information Systems (3) 2010 2012*
- Book reviews: Obroni and the Chocolate Factory, 2017; Everyday Innovation, 2015
- Session Chairs: Social Media & Society International Conference, Summer 2016; Academy of Innovation & Entrepreneurship Conference, Summer 2015
- Representative: Executive MBA Council, 2016-2019; Northeast Business Dean's Association meeting, 2016
- Award: Academy of Management Outstanding Reviewer Award, 2013

Service – curriculum & grants:

- Curriculum/course development: Finance & Strategy course and Global entrepreneurship course for early career master students, 2019-2023; Finance & Strategy course for executive program, 2015; Curriculum revamp for Master in Innovation Management & Entrepreneurship program, 2019 - 2024
- Committee member: Engineering graduate studies, 2020 2024
- Reviewer: Design Engineering undergraduate concentration (major) proposal, 2022
- Reader/editor: NSF ARTS proposal, 2022
- Strategy development: NSF Industry-University Cooperative Research Center, 2023; Draper Scholars program, 2023
- Business mentor: NSF I-Corp, Brown University bio-technology venture, 2013

Professional education:

- Entrepreneurial Mindset profile certification, 2017
- IDEO University class completions, 2016 2017: Leading for Creativity and Hello Design Thinking
- Brown University online teaching certification, 2014

Practice – boards & consulting:

- Board member: Fractal Antenna Systems, 2018 -
- English at Large, pre-2011
- Advisory board member: Fluxgen Lighting Systems, pre-2011
- Consultant: Headwall Photonics and Oxford University Press Electronic Publishing, pre-2011

Practice – investing & venture formation:

- Founder: STED Ltd, 2020 -
- Member Cherrystone Angel Group, Providence, RI, 2017 2022
- Angel investments: Laurent Pharmaceuticals, 2019; NODAR, 2018