

Manuel Sosa

Professor of Technology and Operations Management
Director of the Baumann-Steiner Endowed Fund for Creativity and Business
Director of the Creativity-Business Learning Platform
INSEAD

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Google Scholar profile accessible [here](#)

(15-September-2021)

Academic employment

INSEAD

2020: Professor of Technology and Operations Management, Area Chair
2013: Tenured Associate Professor of Technology and Operations Management
2008: Associate Professor of Technology and Operations Management
2001: Assistant Professor of Technology and Operations Management

IESE Business School (Barcelona, Spain)

2016-2019: Visiting Professor in Production, Technology, and Operations Management

Research interests

Design and creativity management; social networks in innovative organizations; on-line reviews in operations management; modularity in complex systems.

Education

Massachusetts Institute of Technology

Cambridge, MA

1996-2000 *Ph.D. degree in Mechanical Engineering*

Center for Innovation in Product Development (CIPD)

1994-1996 *Master of Science degree in Mechanical Engineering*

Computer-Aided Design Laboratory (CADLab)

Universidad Simón Bolívar

Caracas, Venezuela

1987-1992 *Bachelor of Science (Cum Laude) in Mechanical Engineering*

Industry experience

OCULUS Technologies Corporation (formerly DOME Solutions Inc.)

Boston, MA

2000–2001 *Director of Customer Solutions*

Parametric Technology Corporation

Waltham, MA

Summer 1996 *Technical Marketing Associate (Product Data Management Group)*

Mitsubishi Electric Research Laboratories

Cambridge, MA

Summer 1995 *Research Associate*

Petrochemical of Venezuela (PEQUIVEN)

Morón, Venezuela

1992-1994 *Systems Engineer*

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Publications (Articles in academic journals; chronological listing based on publication date)

- [1] Sosa, M., S. Eppinger, M. Pich, D. McKendrick, S. Stout. 2002. [Factors that influence technical communication in distributed product development: An empirical study in the telecommunications industry](#). *IEEE Transactions on Eng. Management* **49**(1): 45–58.
- [2] Sosa, M., S. Eppinger, C. Rowles. 2003. [Identifying modular and integrative systems and their impact on design team interactions](#). *ASME Journal of Mechanical Design* **125**(2): 240–252. (Earlier version published in *Proceedings of the 12th ASME Design Theory and Methodology Conference*; “Best Paper” award nomination)
- [3] Sosa, M., S. Eppinger, C. Rowles. 2004. [The misalignment of product architecture and organizational structure in complex product development](#). *Management Science* **50**(12): 1674–1689.
- [4] Sosa, M., S. Eppinger, C. Rowles. 2007. [A network approach to define modularity of components in complex products](#). *ASME Journal of Mechanical Design* **129**(11): 1118–1129. (Earlier version published in *Proceedings of the 17th ASME Design Theory and Methodology Conference*)
- [5] Sosa, M. 2008. [A structured approach to predicting and managing technical interactions in software development](#). *Research in Engineering Design* **19**(1): 47–70. (Earlier version published in *Proceedings of the International Conference in Engineering Design 2007*)
- [6] Sosa, M. 2011. [Where do creative interactions come from? The role of tie content and social networks](#). *Organization Science* **22**(1): 1–21. (lead article)
- [7] Sosa, M., J. Mihm, T. Browning. 2011. [Degree distribution and quality in complex engineered systems](#). *ASME Journal of Mechanical Design* **133**(10): 101008:1–15.
- [8] Sosa, M., J. Mihm, and T. Browning. 2013. [Linking cyclicity and product quality](#). *Manufacturing & Service Operations Management* **15**(3): 473–491.
- [9] Sosa, M., F. Marle. 2013. [Assembling creative teams in new product development using creative team familiarity](#). *ASME Journal of Mechanical Design* **135**(8): 081009:1–13. (Earlier version published in *Proceedings of the 22nd ASME Design Theory and Methodology Conference*)
- [10] Sosa, M. 2014. [Realizing the need for rework: From task interdependence to social networks](#). *Production and Operations Management* **23** (8): 1312–1331.
- [11] Sosa, M., M. Gargiulo, C. Rowles. 2015. [Can informal communication networks disrupt coordination in new product development projects?](#) *Organization Sci.* **26**(4): 1059–1078. (Finalist for 2020 *TIMES Best Paper Award*)
- [12] Gargiulo, M., M. Sosa. 2016. [Common third parties and coordination disruptions in new product development organizations](#). *Journal of Product Innovation Management* **33**(2): 132–140. (Special issue on social networks in new product development)
- [13] Chan, T. H., J. Mihm, M. Sosa. 2018. [On styles in product design: An analysis of US design patents](#). *Management Science* **64**(3): 1230-1249. (Winner of 2015 POMS College of Product Innovation and Technology Management’s Best Student Paper Award)
- [14] Liu, H., J. Mihm, M. Sosa. 2018. [Where do stars come from? The role of star versus non-star collaborators in creative settings](#). *Organization Science* **29**(6): 989-1236. (Earlier version published in the *Best Paper Proceedings* of the 2013 *Academy of Management Meeting*; Finalist for TIM Division’s Best Student Paper Award)
- [15] Chan, T. H., J. Mihm, M. Sosa. 2020. [Revisiting the role of collaboration in creating breakthrough inventions](#). *Manufacturing & Service Operations Management*, in press

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(Finalist for 2018 *INFORMS TIMES Best Working Paper Award. Featured in Harvard Business Review's Idea Watch March-April 2020*)

- [16] Cho, H., **M. Sosa**, and S. Hasija. 2021. [Reading between the stars: Understanding the effects of online customer reviews on product demand](#). *Manufacturing & Service Operations Management*, in press.

Working papers

- [17] Martínez-de-Albéniz, V., **M. Sosa**, and C. Carrera. 2020. [The bright side of bad choices: Evidence from restaurant exploration](#). *INSEAD Working paper 2020/29/TOM*. Presented at *MSOM Annual Conference 2019* in Singapore in July 2019. Reject and resubmit at *Management Science* (under revision).
- [18] M. Maoret and **M. Sosa**. 2020. [Close to me: Studying the interplay between physical and social space on dyadic collaboration](#). *INSEAD Working paper*. Accepted for presentation at the *Strategy of Management Society Annual Conference* in Paris 2018 and the *Academy of Management Annual Meeting* in Boston in August 2019. To submit to *Org. Science*.
- [19] Lee, S. and **M. Sosa**. 2020. [Spaces for creativity: The role of physical environment on creative problem solving](#). *INSEAD Working paper*. Accepted for presentation at the *Academy of Management Annual Meeting* in August 2021. To submit to *Org. Science*.
- [20] Cho, H., S. Hasija, and **M. Sosa**. 2019. [How important is design for the automobile value chain?](#) *INSEAD Working paper*. Accepted for presentation at the *Academy of Management conference 2016* and *MSOM conference 2018*. (Revising it for journal submission).
- [21] **Sosa, M.**, H. Park, R. Basole. 2017. [Bicentric diagrams: A novel approach to manage design changes of interdependent components in complex systems](#). *INSEAD Working paper 2017/47/TOM*. (Revising for submission to *ASME Journal of Mechanical Design*).

Managerial journals and book chapters

- [22] **Sosa, M.**, S. Eppinger, C. Rowles. 2007. [Are your engineers talking to one another when they should?](#) *Harvard Business Review* (November).
- [23] **Sosa, M.**, J. Mihm. 2007. Organization design for new product development. In C. Loch and S. Kavadias (eds.), *Handbook of New Product Development Research*.
- [24] **Sosa, M.** 2009. Coordination networks in product development. In P. Kleindorfer and Y. Wind (eds.), *The Network Challenge*.
- [25] **Sosa, M.** 2012. Organization and domain mapping examples based on Pratt & Whitney jet engine design. In T. Browning and S. Eppinger (eds.), *Applications and Methods of Design Structure Matrix (DSM)*.
- [26] Browning, T., J. Mihm, and **M. Sosa**. 2015. Using hubs and cyclicity to relate software architecture and quality. *CrossTalk* July/August: 27-31.
- [27] **Sosa, M.** 2018. [The value of good design: How design can boost social impact and business results](#). *IESE Insight* 37 (2): 24-31. Special issue on [Transformation Through Design Thinking](#) (Also published in *IESE Business Magazine* Fall 2018)
- [28] Chan T., J. Mihm, **M. Sosa**. 2019. [When Individuals Are More Innovative Than Teams](#) *Harvard Business Review* (online)

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Research in progress

- [29] **Studying survival in restaurant networks** (with V. Martínez-de-Albéniz and C. Carrera). *Data collection completed. Further analysis in progress.*
- [30] **Identifying the drivers of big styles in product design** (with T. Chan and J. Mihm). *Data collection completed. Further analysis in progress.*
- [31] **The life cycle of cycles in product architectures** (with T. Browning and J. Mihm). *Data collection completed. Further analysis in progress.*
- [32] **Estimating the return on design** (with C. Pennetier and J. Mihm). *Data collection completed. Further analysis in progress.*
- [33] **Product architecture and bug fixing** (with J. Mihm and T. Browning). *Data collection completed. Analysis in progress.*
- [34] **A dynamic view of the “mirroring” hypothesis** (with J. Mihm and T. Browning). *Data collection completed.*

Papers in refereed conferences proceedings (not listed above):

- [35] Chan, T. H., J. Mihm, M. Sosa. 2012. A structured approach to identifying styles in design. *Proceedings of the 24th ASME Design Theory and Methodology Conference.*
- [36] Sosa, M., M. Danilovic. 2009. A structured approach to re-organize for creativity. *Proceedings of the International Conference on Engineering Design (ICED'09).*
- [37] Sosa, M., T. Browning, J. Mihm. 2007. Studying the dynamics of software architectures. *Proceedings of the 19th ASME Design Theory and Methodology Conference.* (“**Best Paper” award nomination**)

Invited research seminars

- INFORMS Meetings (1997, 1999-2012, 2014-16, 2018-20); MSOM Annual Conference 2019; Academy of Management Meetings (2007-2009, 2018); Behavioral operations management conference at MIT (2017); Conference on strategy, organizational design, and innovation at University of Vienna (2017); POMS (2006, 2007); POMS Product Innovation and Technology Management conference (2011, 2015); Wharton Tech Mini conference (2006); Carnegie Bosh Institute conference (2005); EUROMA conference (2004); ASME Design Theory and Methodology (2000, 2005, 2007, 2010); International Conference in Engineering Design (2007, 2009); International DSM conference (1999, 2002-2005, 2008)
- Singapore Management University (2020); Ross School of Business at University of Michigan (2019); Doing Good Doing Well Conference at IESE (2018); University Pompeu Fabra (2017); IESE Business School (2017); Judge Business School at University of Cambridge (2016); [TEDx INSEAD](#) (2015); World Knowledge Forum (2014, 2015); Dubai Design Week (2015); Bocconi University (2013); Singapore Management University (2012); London Business School (2011); IESE Business School (2011); Judge Business School at University of Cambridge (2011); Georgia Tech College of Management (2011); Rady School of Business at UCSD (2009); Ross School of Business at University of Michigan (2008); The Wharton School (2007); MIT Sloan (2007, 2000); St. Gallen University (2003); INSEAD (2001, 2008); Boston University (2000); Babson College (2000); Harvard Business School (2000)

Teaching experience

Executive education

- Design, direction, and teaching of “[Design Thinking and Creativity for Business \(in-person\)](#)” (formerly “Innovation by Design”) open-enrollment programme (since 2017)
- Design, direction, and teaching of “[Design Thinking and Creativity for Business](#)” on-line programme (launched in February 2020)
- Both open enrollment and company-specific programs (2002–present): **topics** include design and creative thinking, disruptive innovation management, developing innovative portfolios; **programs** include SRDM, PROM, AIEP, BSHR, Summer@INSEAD, Kolding, Google, Alstom, GE Capital, Citibank, Permatatabank, Maybank, KPMG, OCBC, Toyota, Roland Berger, Unilever, DTEK, Scandinavian Executive Institute, Innovation Danish Fund, Oliver Whyman, TPG, Hong Kong Broadband Network (HKBN), Jardines (both on-line and in-person), Generali, Hitachi, Walmart (directing and teaching), P&G (directing and teaching), TCS (directing and teaching), TinkOff (directing and teaching).

MBA

- [Creative Thinking](#) (at INSEAD), elective **course series** on design and creativity management (since 2001). For the Spring version, the course series includes **design participants** from the **Art Center College of Design**, Pasadena, CA and a **fieldtrip** to California (since 2005)
- **CREA: Creative Thinking** (at IESE), 2nd year elective MBA course on design and creativity management (top-rated MBA elective course in the Fall of 2017 semester; top-two most bidded MBA elective course in the Fall 2018 semester)
- **Product Management in a Digital World** (launched in March 2020; redesigned in March 2021)
- Process and Operations Management, core course (2004–2008)

Executive MBA

- Key Management Challenge on “Creative Thinking” in GEMBA (since 2019)
- Key Management Challenge on “Innovation Management” in both GEMBA (2007-2015) and TIEMBA (2007–2010) programs

PhD

- Empirical Methods in Technology and Operations Management (every other year; 2005-2015; 2020)
- Technology Management Seminar (2002-2003)

Pedagogical materials

- [T1] M. Sosa. 2021. **A Virtual Reality (VR) visit to Tekka Market (Little India, Singapore)**. A VR immersive experience to learn user-centered innovation. *INSEAD VR Immerse Experience* (pre-release).
- [T2] Baehr, T. and M. Sosa. 2021. **FLYDESK – Empowering the “Modern Working Lifestyle”(A)&(B)** *INSEAD Case 07/2021-6610* (with Teaching Note).

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- [T3] Atasu, A. and M. Sosa. 2021. [Re-Designing a VHS Tape for Circularity](#). *INSEAD case 05/2021-6670* (with Teaching Note).
- [T4] Martínez-de-Albéniz, V. and M. Sosa. 2020. [:isfrutar](#). IESE-INSEAD case (in preparation).
- [T5] Carrick, A., J. Mihm, and M. Sosa. 2018. [McKinsey and LUNAR: Acquiring a design firm](#). *INSEAD Case 10/2018-6374* (with Teaching Note). **An animated video version of this case is available (for registered users only).**
- [T6] Carrick, A., M. Sosa. 2018. [Eight Inc. and the Apple retail stores](#). *INSEAD Case 12/2018-6303* (with Teaching Note). **An animated video version of this case is under development (for registered users only).**
- [T7] Vissa, R., M. Pich, and M. Sosa. 2017. [Public Sector Service Design: Designing the Employment Pass Service Centre for the Ministry of Manpower, Singapore](#). *INSEAD Case 08/2017-6145* (with Teaching Note). **Video-case available [here](#).**
- [T8] Grover, A. M. Sosa. 2018. [The journey behind “My INSEAD Story”](#). *INSEAD Case 06/2018-6116* (with Teaching Note)
- [T9] Singh, A., M. Sosa. 2018. **Joyful Frog Digital Incubator: Accelerating Start-ups**. *INSEAD Case 06/2018-6136* (with Teaching Note)
- [T10] Carrick, A., M. Sosa. 2018. **Unilin**. *INSEAD Case (revised pre-release)*.
- [T11] Desawar, T., M. Sosa. 2016. **Bringing Design to OCBC Bank**. *INSEAD Case (pre-release)*
- [T12] Desawar, T., M. Sosa. 2016. **Designing a New Bank for GenY: FRANK by OCBC**. *INSEAD Case (pre-release)*
- [T13] Carrick, A., M. Sosa. 2015. **Design at Belkin**. *INSEAD Case (pre-release)*
- [T14] Carrick, A., H. Greve, M. Sosa, and B. Strousse. 2014. [Handpresso: From an innovative idea to an alliance portfolio](#). *INSEAD Case 04/2016-5903*
- [T15] Carrick, A., M. Sosa, and H. Greve. 2014. **Handpresso (C): Growing through alliances**. *INSEAD Case*
- [T16] Carrick, A., M. Sosa, B. Strousse. 2011. [Handpresso](#) (A&B). *INSEAD Case 11/2011-5841*. **Also available in iBooks/iPad interactive version.**
- [T17] Carrick, A., M. Sosa. 2011. **Bazile Telecom**. *INSEAD Case 05/2011-5755*.
- [T18] Carrick, A., M. Sosa. 2011. **Mimijumi**. *INSEAD Case 03/2011-5778*.
- [T19] Loch, C., M. Sosa. 2008. **Managing Development Complexity in the Design of Mini-Max**. *Class simulation under revision*.
- [T20] Bhavnani, R., M. Sosa. 2006. [IDEO: Service Design](#) (A&B). *INSEAD Case 11/2006-5276*. **Winner of the 2008 ecch European Case Award in the category of production and operations management. Also available in iBooks/iPad interactive version.**
- [T21] Balmes, C., M. Sosa. 2005. [R&D Management at Universal Luxury Group – Perfumes and Cosmetics Division](#) (A&B). *INSEAD Case 07/2006-5260*.
- [T22] Sosa, M. 2002. **Bottle Design at Green Beverage Corporation (GBC)**. *INSEAD Case 06/2002-5046*.

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Teaching Resources

INSEAD-ArtCenter collaboration (since 2005)

Directed a collaboration with the **ArtCenter College of Design (Pasadena, CA)**, one of the most prominent design school in the world, to integrate industrial design students (and faculty) in our MBA (since 2005) and Executive Education programmes (since 2016).

Creative Garage (since 2016)

Led the design and development, with Eight Inc. (a world-class design firm), of the Creative Garage at INSEAD's Singapore campus. This is a space designed to host design, creativity, and innovation related teaching activities at INSEAD.

Selected INSEAD Knowledge posts and Webinars

- [“How Online Product Reviews Affect Market Share”](#), June 2021
- [“Creative Collaboration”](#), INSEAD Lifelong Webinar (March 2021)
- [“How the SDGs Can Change Your Organization”](#) (with A. Atasu & L. Van Wassenhove), January 2021
- [“How can Design help fight COVID-19?”](#), Webinar at Long Hash Ventures Virtual Hackaton Speaker Series (April 2020)
- [“Reconceiving Innovation for Covid-19”](#), September 2020
- [“The kinds of Collaboration That Lead to Successful Innovation”](#), article and podcast interview, December 2019
- [“Why Should You Work With a Creative Star”](#) (J. Mihm & H. Liu), March 2019
- [“A Matchmaker for Public-Private Partnerships”](#), April 2018
- [“Three Essential Elements of Customer Co-Creation”](#), October 2016 (**includes video**)
- [“Becoming an Innovation Catalyst”](#), September 2016
- [“The Science Behind Great Product Design”](#), June 2016
- [“Design, Business & Brand: How Creativity Becomes Innovation”](#), July 2015
- [“An Innovation Reinvention for Incumbents”](#), May 15, 2015.
- [“The Innovative Organisation: Learning From Design Firms”](#), February 2015
- [“Assembling a Creative Team”](#), June 2013
- [“Picturing the art of business”](#), July 2011 (**includes video**)

Selected media references

- [“Why should you work with a creative star?”](#) (with H. Liu & J. Mihm), *Work in Progress: Sociology on the economy, work and inequality*; sociology blog of the American Sociological Association (ASA), June 2019
- [“Creating innovation cultures”](#), IEDP Developing Leaders, February 2017.
- [“INSEAD unveils 1,400-sq ft multi-purpose hub called Creative Garage”](#), Singapore Business Preview, November 2016.
- [“Eight Inc. and INSEAD collaborate to create a new space for a new way to learn”](#), Eight Inc. press release, October 2016. Video release is accessible [here](#).
- [“A space to create”](#), **Salamander INSEAD Alumni Magazine**, July 2016
- [“Companies placing more emphasis on design”](#), *Channel NewsAsia*, April 2015.
- [“Giving design the business: The ROI on Art Center’s longstanding partnership with INSEAD”](#), *Dotted Line: Art Center’s official blog*. March 2015.
- [“Creative Boost-By Design”](#), *INSEAD Alumni Magazine*, June 2014.

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- “A day in the life at INSEAD”, *Wall Street Journal*, October 2012. (essays by Irina Kholkina and Shalini Joseph)
- “Schools learn from the world of design”, *Financial Times*, 13 September 2010.
- “World’s best design schools”, *Business Week*, October 2009.
- “MBA students have designs on innovation”, *Financial Times*, 8 October 2007.
- “Talent hunt: The methodology”, *Business Week*, 1 October 2007.
- “Management-Lehrpläne inklusive Design-Vorlesung”, *Wirtschaftswoche* (Germany), 16 October 2006.
- “When MBA meets designer”, *Business Week*, 9 October 2006.
- “Incorporating design into the INSEAD MBA curriculum”, *Business Digest*, December 2005.
- “Unique selling point”, *The Times*, 20 October 2005.
- “Where MBAs learn the art of blue-skying”, *Business Week*, 18 April 2005.
- “Les promesses du design de services”, *La Tribune* (France), 22 November 2004.

Honors and awards

- **INSEAD’s MBA Best Teacher of Elective Courses Award** in Singapore campus July 2021 (for Creative Thinking course)
- INSEAD Dean’s Commendation for Excellence in MBA Teaching (2009, 2011–2016, 2019, **2020, 2021**). Did not teach at INSEAD’s MBA programme during 2017-2018.
- Finalist for *2020 TIMES Best Paper Award*, which recognizes impactful papers in technology management published in the last five years in an INFORMS journal (with Martin Gargiulo and Craig Rowles)
- Finalist for the *2018 INFORMS TIMES Best Working Paper Award* (with Tian Chan and Jürgen Mihm)
- Second prize for the *2017 TIMES Best Dissertation Award* (by Tian Chan), INFORMS 2017. Co-chair of doctoral dissertation committee
- Finalist for the *2016 TIMES Best Dissertation Award* (by Haibo Liu), INFORMS 2016. Co-chair of doctoral dissertation committee
- Winner of 2015 POMS College of Product Innovation and Technology Management’s *Best Student Paper Award* (by Tian Chan)
- Finalist for 2013 Academy of Management TIM Division’s *Best Student Paper Award* (by Haibo Liu)
- Recipient of *Management Science Meritorious Service Award* as a reviewer (2012, 2013)
- Runner-up for best professor of MBA elective for *SPSD* in Singapore (2012, 2013)
- Recipient of the *2008 ecch European Case Award* in production and operations management (for “IDEO: Service Design”)
- Recipient of the Antonio Jose de Sucre Award for scholastic excellence (awarded by the Venezuelan government to top students in that country for their US graduate studies)
- Ranked top student in the Universidad Simón Bolívar graduating class of 1992
- Awarded “Pequiven” merit-based scholarship to support undergraduate studies

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Institutional Contributions Highlights

PhD committee (co)chairing

- Haibo Liu (graduated in 2015. Assistant professor of management at School of Business, University of California, Riverside)
- Tian Chan (graduated in 2016. Assistant professor at the information systems and operations department, Goizueta Business School, Emory University)
- Hallie Cho (graduated in 2019. Assistant professor of management at the Owen Graduate School of Management, Vanderbilt University)

Fundraising

- Contributed to raising the funds for the establishment and development of the Baumann-Steiner Endowed Fund for Creativity and Business (donors relationship management since 2005)
- Led the raising of a one-million SGD gift to establish the Creativity-Business Learning Platform (donor relationship management since 2014)

Professional activities

- Associate Editor for *Manufacturing & Service Operations Management* (since Jan. 2021)
- Senior editor for the New Product Development department of *POM* (since 2010)
- Co-organizer of Symposium on “Micro-geography in Organizations” at the Academy of Management Meeting 2018
- Ad hoc referee for the following journals: *Administrative Science Quarterly*, *ASME Journal of Mechanical Design*, *Design Science*, *European Journal of Operations Research*, *Journal of Engineering Design*, *Journal of Operations Management*, *IEEE Transactions on Engineering Management*, *IEEE Transactions on Software Engineering*, *Management Science*, *Manufacturing & Service Operations Management*, *Operations Research*, *Organization Science*, *Organization Studies*, *Production and Operations Management*, *Research in Engineering Design*, *Research Policy*, *Strategic Entrepreneurship Journal*, *Design Science*, *National Science Foundation (NSF)*
- Member of advisory board of the “Doing Good Doing Well” conference 2019 at IESE
- Member of INFORMS, the Academy of Management, and the American Society of Mechanical Engineers (ASME)