

# About the Authors

## **Pedro Less Andrade**

Pedro Less Andrade is Director of Public Policy and Government Affairs for Latin America at Google. He holds a Law degree from the University of Buenos Aires and a Master's degree (LLM) from the University of Georgia, where he wrote his thesis on the international regulation of electronic commerce. He also pursued postgraduate studies in the Legal Framework of the Multilateral Trading System of the World Trade Organization (WTO). He is Vice President of Public Policy of the Latin American & Caribbean Federation for Internet & E-commerce (eCom-Lac), a board member and head of the Regulatory Commission at Argentina's Internet Industry Chamber (CABASE), and a member of the Legislative Commission of the Argentinean E-commerce Chamber (CACE).

## **Scott C. Beardsley**

Scott Beardsley is a Director in McKinsey & Company's Brussels Office. Since joining the firm in 1989, he has been particularly active in helping clients around the world on a range of strategy, regulation, stakeholder management, business in society, and performance transformation topics in the telecommunications, technology, and media sectors. He is a global leader of McKinsey's telecommunications practice. Mr Beardsley has led McKinsey's Strategy practice in Europe, the Middle East, and Africa for the past seven years. He has co-chaired the personnel committees that elect and evaluate McKinsey partners as well as the committee that elects Directors (Senior Partners). Recently he has started leading all the leadership development, training, and learning programs for McKinsey's consultants globally. Mr Beardsley was a Henry S. Dupont III Scholar (highest honors) for outstanding academic performance at the MIT Sloan School of Management, where he graduated with an MBA in Corporate Strategy and Marketing. He holds a Bachelor of Science in Electrical Engineering *magna cum laude* from Tufts University, where he achieved highest honors being selected as a Kodak Scholar, a member of the national engineering honor society Tau Beta Pi, and President of Eta Kappa Nu, the electrical and computer engineering honor society of the Institute of Electrical and Electronics Engineers (IEEE).

## **Beñat Bilbao-Osorio**

Beñat Bilbao-Osorio is an Associate Director and Senior Economist at the Global Competitiveness and Benchmarking Network at the World Economic Forum. In this capacity, he carries out research on national competitiveness issues with a special focus on Latin America and Iberia. In addition, he analyzes the role of innovation and information and communication technologies in fostering competitiveness and is Co-Editor of *The Global Information Technology Report*. Prior to joining the Forum, Dr Bilbao-Osorio worked at the Directorate-General for Research and Innovation at the European Commission, where he was responsible for the economic analysis of European Innovation Policy. Prior to that, he worked at the Directorates of Science, Technology and Industry, and Education of the Organisation for Economic Co-operation and Development (OECD) on innovation-related topics, as well as at the International Trade Centre (UNCTAD/WTO) on international trade competitiveness analysis. His main research fields are innovation, skills, and economic development, where he has published extensively. Dr Bilbao-Osorio holds a degree in Economics from the Universidad Comercial de Deusto (Spain), a Master in European Studies from the Université Catholique de Louvain (Belgium), and a PhD in Economic Geography from the London School of Economic and Political Science (UK).

## **Roberto Crotti**

Roberto Crotti is a Quantitative Economist with the Global Competitiveness and Benchmarking Network at the World Economic Forum. His responsibilities include the computation of a range of indexes as well as data analysis for various projects and studies. His main areas of expertise are quantitative research, forecasting, macroeconomics, and public economics. Prior to joining the Forum, he worked as an Analyst in the private consulting and forecasting sector. Mr Crotti holds an undergraduate degree in Economics/Economic Policy from Università Cattolica del Sacro Cuore in Milan, Italy; an MA in Economics from Boston University in the United States, and is currently enrolled in a PhD program in Economics at the Graduate Institute Geneva in Switzerland.

## **Bahjat El-Darwiche**

Bahjat El-Darwiche is a Partner with Booz & Company, based in Beirut. He is the leader of the firm's Communications, Media, and Technology practice in the Middle East. He specializes in communications, media, and technology and has led engagements in the areas of telecommunications-sector strategy development, policymaking and regulatory management, digitization, business development and strategic investments, and corporate management as well as governance, operating models, and restructuring.

### Soumitra Dutta

Soumitra Dutta is the Anne and Elmer Lindseth Dean and Professor of Management at the Samuel Curtis Johnson Graduate School of Management at Cornell University, New York. Prior to July 2012, he was the Roland Berger Chaired Professor of Business and Technology at INSEAD and the Founding Director of eLab, a center of excellence in the digital economy. Professor Dutta obtained his PhD in Computer Science and his MSc in Business Administration from the University of California at Berkeley. His current research is on technology strategy and innovation policies at both corporate and national levels. He has won several awards for research and pedagogy and is actively involved in strategy and policy consulting. His research has been showcased in the global media and he has received several awards, including the Light of India Award '12 (from the *Times of India* media group) and the Global Innovation Award '13 (from INNOVEX in Israel).

### Luis Enríquez

Luis Enríquez is a Director in McKinsey & Company's Brussels Office, where he has worked primarily in the infrastructure and regulated industries. He has focused on regulation, operations, and pricing in telecommunications (fixed and mobile businesses) and energy. He co-leads McKinsey's global efforts in regulation, regulatory economics, and stakeholder management and worked extensively in this area both at McKinsey and prior to joining the firm. Mr Enríquez has an AB in Economics from Harvard University and did his doctoral work in Economics at the University of California at Berkeley, where he focused on the economic dynamics of interconnection among telecommunications networks.

### Peter Haynes

Peter Haynes is a Senior Fellow at the Atlantic Council and former Senior Director, Advanced Strategies and Research, at Microsoft Corporation, where his focus was on long-term strategy and policy in areas including cybersecurity, big data, the Internet of Things, and the economic impact of digital technologies. Previously Mr Haynes was New York Bureau Chief and US Business Editor of *The Economist* and a Senior Researcher at Britain's Institute for Fiscal Studies and National Institute of Economic and Social Research. He also helped to found Oxford Economic Research Associates, a leading European economic consultancy. Mr Haynes holds an MA in Philosophy, Politics and Economics from Keble College, Oxford.

### John Garrity

John Garrity is Cisco's Global Technology Policy Advisor. He is responsible for policy engagement and data-driven analytical research on technology issues related to the potential of IT and network connectivity for economic growth, competitiveness, social inclusion, and environmental protection. His research covers the expansion of fixed and wireless broadband, national broadband agendas, municipal strategies for ICT use, Internet protocol network traffic demand, and Internet governance. Previously he was a manager in Cisco's Strategy and Economics group, guiding strategic direction for the Emerging Markets organization, a business unit with geographic market coverage across 130 countries. Prior to Cisco, Mr Garrity worked at the World Bank in the Corporate Strategy Group, and he has held positions in the US Federal Trade Commission as well as in state government. He holds a Master in Applied Economics from Ohio State University.

### Ferry C. Grijpink

Ferry C. Grijpink is a Principal in McKinsey's Singapore office. He focuses on advising telecommunications clients on strategy and technology topics in Europe, Africa, and Asia. Within McKinsey, Mr Grijpink is co-leading McKinsey's research in deploying and commercializing next-generation infrastructures such as fiber and mobile broadband. He has a strong record in ensuring that analytical findings are delivering real change for clients. He has written numerous articles for McKinsey's telecoms magazine *Recall* on 4G, mobile OTT, and frequency auctions. Mr Grijpink is a member of the core faculty of McKinsey's leadership program for engagement management. Before joining McKinsey, he worked for Gemini Consulting in their high-tech consulting unit, where he served consumer electronics and semiconductor companies. He has also been active as an entrepreneur in the mobile Internet space. Mr Grijpink holds an MSc in Electrical Engineering with a major in Telecommunications from the Delft University of Technology.

**Anant Gupta**

Anant Gupta is President and Chief Executive Officer of HCL Technologies Ltd. (HCLT), a \$4.8 billion global information technology services company. He joined HCL in 1993, and has since held a series of leadership positions in the company, most recently as President of HCL's Infrastructure Services Division. In this role, he led the company's foray into global markets through its pioneering Remote Infrastructure Management (RIM) Services, going on to lead that Division to become a \$1 billion business for the company and growing its contribution to HCL's revenues from 10.2 percent in 2005 to 30 percent today. Mr Gupta has also authored the world's first book on the RIM industry, which earned much critical acclaim. In recognition of his contribution to the industry, India's premier IT Consortium, NASSCOM, appointed him as the Founding Chairman of its RIM Forum. Mr Gupta played a transformational role in the evolution of the IT operations management space and pioneered three revolutionary delivery models: RIM as an alternative to the prevalent total outsourcing model; Business Ready Infrastructure (BRI) Service as a smart sourcing alternative to utility computing; and the first hosted pay-by-use Enterprise Systems Management Framework, called MTaaSTM. He is also credited with leading the company's incubation of a new approach to application management called ALT AMSTM and Digital System Integration for strategic application development. Under his leadership these models and services are expanding addressable blue ocean markets for HCL and successfully delivering a differentiated value proposition to Global 1000 corporations. Mr Gupta serves as a trustee of the HCLT Foundation and is the Executive Sponsor for the company's sustainability programs. He has been a Task Force member of the New Energy Architecture project run by the World Economic Forum, and has contributed significantly to global research literature on next generation IT services. Mr Gupta has a BSc in Physics and an MSc Engineering from University of Liverpool.

**Jess Hemerly**

Jess Hemerly is a Senior Public Policy and Government Affairs analyst at Google, focusing on privacy and security, data-driven innovation, and accessibility. She received a MIMS from the University of California, Berkeley. Ms Hemerly is a member of the International Association of Privacy Professionals and has CIPP/US certification.

**Volkmar Koch**

Volkmar Koch is a Partner at Booz & Company, based in Frankfurt. He leads the Big Data/CRM Center of Excellence for Europe and the Middle East within Booz & Company. He has supported clients across the globe in the digital transformation of their business models. He specializes in customer interface and organizations, the development of strategies that capture value from data, and how to embrace opportunities from big data/advanced analytics.

**Bruno Lanvin**

Bruno Lanvin is the Executive Director of INSEAD's European Competitiveness Initiative (IECI) and of Global Indices projects at INSEAD (Global Information Technology, Global Innovation Index, and Global Talent Competitiveness Index). He is a Director on the Board of ICANN and a member of the Board of Directors of IDA Infocomm in Singapore. Since 2010 he has been a Broadband Commissioner ([www.broadbandcommission.org](http://www.broadbandcommission.org)). In 2009–10 he was Chair of the Global Advisory Council on the Future of Government (World Economic Forum). From 2000 to 2007, he worked for the World Bank, where he was *inter alia* Senior Advisor for E-strategies, Regional Coordinator (Europe and Central Asia) for ICT and e-government issues, and Chairman of the Bank's e-Thematic Group. From June 2001 to December 2003, he was the Manager of the Information for Development Program (infoDev). In 2000, Mr Lanvin was appointed Executive Secretary of the G-8 DOT Force. Before that, he worked for some 20 years in senior positions in the United Nations. The author of numerous books and articles on international economics, information technology, and development, he holds a BA in Mathematics and Physics, an MBA from Ecole des Hautes Etudes Commerciales (HEC) in Paris, and a PhD in Economics from the University of Paris I – La Sorbonne.

**David Meer**

David Meer is a Partner at Booz & Company, based in New York. He leads the Demand Analytics group, the firm's expert capability in consumer insight and marketing analytics. His work spans several industries, including consumer products and healthcare. He is widely published on the topics of analytics and organic growth, including the *Harvard Business Review* article "Rediscovering Market Segmentation," co-written with public opinion pioneer Daniel Yankelovich.

**M-H. Carolyn Nguyen**

Dr M-H. Carolyn Nguyen is a Director in Microsoft's Technology Policy Group, responsible for policy initiatives in data governance and personal data management. Her work is focused on shaping relevant long-term technology policies globally by engaging with stakeholders and raising awareness of potentially disruptive impacts of emerging technologies, such as big data and the Internet of Things, on existing social, economic, and policy frameworks. Prior to joining Microsoft, Dr Nguyen held positions with Research in Motion, Avaya Communications, Lucent Technologies, and Bell Laboratories. She received her PhD in Electrical Engineering from Columbia University, and completed Executive Business Management Programs at Harvard Business School and London Business School.

### Alex “Sandy” Pentland

Alex “Sandy” Pentland directs MIT’s Human Dynamics Laboratory and the MIT Media Lab Entrepreneurship Program, co-leads the World Economic Forum’s Big Data and Personal Data initiatives, and is a board member for Nissan, Motorola Mobility, Telefonica, and a variety of start-up firms. He previously helped create and direct MIT’s Media Laboratory, the Media Lab Asia laboratories at the Indian Institutes of Technology, and Strong Hospital’s Center for Future Health, along with several start-up companies. In 2012 Forbes named Sandy one of the “seven most powerful data scientists in the world,” along with Google founders and the CTO of the United States, and in 2013 he won the McKinsey Award from Harvard Business Review. He is among the most-cited computational scientists in the world and is a pioneer in social physics, privacy research, organizational engineering, and wearable computing (Google Glass). His research has been featured in *Nature*, *Science*, and *Harvard Business Review*, as well as being the focus of TV features on BBC World, Discover, and Science channels. His most recent book is *Social Physics*, published by Penguin Press.

### Robert Pepper

Robert Pepper leads Cisco’s Global Technology Policy team working with governments and business leaders across the world in areas such as broadband, IP-enabled services, wireless and spectrum policy, security, privacy, Internet governance, and ICT development. He joined Cisco in July 2005 from the FCC, where he served as Chief of the Office of Plans and Policy and Chief of Policy Development beginning in 1989. There he led teams developing policies promoting the development of the Internet, implementing telecommunications legislation, planning for the transition to digital television, and designing and implementing the first US spectrum auctions. Dr Pepper serves on the board of the US Telecommunications Training Institute (USTTI) and advisory boards for Columbia University and Michigan State University, and is a Communications Program Fellow at the Aspen Institute. He is a member of the US Department of Commerce’s Spectrum Management Advisory Committee, the UK’s Ofcom Spectrum Advisory Board, and the US Department of State’s Advisory Committee on International Communications and Information Policy. He received his BA and PhD from the University of Wisconsin-Madison.

### Matt Quinn

Matt Quinn, Chief Technology Officer, has been with TIBCO for 15 years. During this time he has held several worldwide positions. As Chief Technology Officer, Mr Quinn works with all product groups to create a common, corporate-wide vision for all of TIBCO’s products and technologies; ensures interoperability among TIBCO’s various product families as well as consistent architectural approaches across all groups; and provides overall leadership and coordination of TIBCO’s product plans and technology direction. Earlier in his career, Mr Quinn was a global architect responsible for the delivery of some of TIBCO’s largest implementations in diverse areas such as transportation and logistics, energy, and finance.

### Gabriel Recalde

Gabriel Recalde is a Public Policy and Government Affairs Analyst at Google. Currently based in Buenos Aires, he works for the Spanish-speaking Latin America policy team. Before joining Google, he worked as a project manager of science, technology, and innovation consultancy projects in Argentina, Chile, and Tanzania.

### Patrick Ryan

Patrick Ryan is Public Policy and Government Affairs Senior Counsel for Free Expression and International Relations at Google. Before joining the International Relations team, Dr Ryan led the global policy strategy for Google’s cloud computing platform and coordinated Google’s engagement in international policy matters at the Internet Governance Forum and other fora. Prior to joining Google, he was a consultant and lawyer with more than 15 years of experience in the telecommunications sector. In addition, Dr Ryan is an Adjunct Professor (previously Faculty Director) at the University of Colorado at Boulder’s Interdisciplinary Telecommunications Program, where he taught Internet and telecommunications policy. He also holds an appointment as a Senior Affiliated Researcher with the Katholieke Universiteit Leuven’s Interdisciplinary Center for Law & ICT. Dr Ryan was one of the founding board members of the Information and Telecommunications Education and Research Association and has published several law review articles on spectrum, telecommunications, and Internet regulation. Dr Ryan received a JD from the University of Texas at Austin, an MBL in International Business Law from the Universität St.Gallen, (Switzerland), and a PhD from the Katholieke Universiteit Leuven (Belgium).

### Sergio Sandoval

Sergio Sandoval is a Senior Expert in McKinsey & Company’s Brussels Office. Mr Sandoval joined the firm in late 2001 and has been part of McKinsey’s global efforts in regulation, regulatory economics, and stakeholder management for the past five years. He has been a lead author in the annual *Global Information Technology Report* of the World Economic Forum since 2005. The articles were focused on topics of regulation, next-generation networks, and the economic impact of high-speed broadband networks. He is also the key liaison person between McKinsey and the European Union—his Brussels-based location enables him to maintain high-level contacts and get information firsthand from key European industry stakeholders in Brussels such as the European Telecommunications Network Operators’ Association (ETNO), the European Competitive Telecommunications Association (ECTA), the Centre for European Political Studies (CEPS), and EurActiv. Prior to joining McKinsey, Mr Sandoval worked with Colombia’s Presidency of the Republic as Economic Advisor to the President. He obtained a BS and an MA in Economics from Los Andes University in Colombia, and an MBA with high honours from Solvay Business School.

**Ramez T. Shehadi**

Ramez T. Shehadi is a Partner at Booz & Company, based in Beirut. He leads the firm's digitization platform globally and its Business Technology practice in the Middle East. He helps corporations and government organizations to maximize their leverage of technology in order to achieve operational efficiencies, improve relevance of infrastructure, and develop next-generation digital services. He has written extensively on digital strategy and technology-driven socioeconomic improvement in the region. In addition, he is a Fellow of the Aspen Institute's Middle East Leadership Initiative, a member of the Aspen Institute's Global Leadership Network, and a board member of the Young Arab Leaders.

**Steven Spittaels**

Steven Spittaels is a Principal in McKinsey & Company's Brussels Office. He has worked primarily in the media and cable sector. Over the last decade, he has served more than 10 European, Latin American, and Asian cable operators and several media companies, ranging from basic to very advanced players and covering strategy and operations. He has also spoken regularly at European Cable and provided input to their yearly conference program. Mr Spittaels is a key member of McKinsey's digital content service line. He has an MSc in Electrical Engineering from the Katholieke Universiteit Leuven, Belgium, and holds an MBA in General Management from IMD in Lausanne, Switzerland.

**Malin Strandell-Jansson**

Malin Strandell-Jansson is a Knowledge Expert in McKinsey & Company's Stockholm Office, specializing in telecommunications regulation. She is working for McKinsey & Company's global telecom practice and is closely affiliated with the strategy practice regulatory service line. Between 2006 and 2010 she held the position of team leader for McKinsey's global group of analysts focusing on mobile telecommunications research, and has served as the coordinator for McKinsey's marketing and sales special interest group. She holds a Master of Law in Law and Information Technology from Stockholm University in Sweden and a Political Science degree with a major in International Law from Åbo Akademi in Finland.

**Chris Taylor**

Chris Taylor, Marketing Director, flew for the US Navy before finding a home in technology and software, first in application and systems development and deployment and then later in management consulting for the finance, energy, logistics, and healthcare sectors. Mr Taylor leads TIBCO's industry and customer marketing, where he has the opportunity to dive into the solutions being created using TIBCO software to solve some of the most complex and rewarding global big data integration challenges.

**Walid Tohme**

Dr Walid Tohme is a Senior Principal with Booz & Company, based in Beirut. He is a member of the firm's Healthcare and Business Technology practices, and has over 20 years of experience at the intersection of health and information technology. He has led a variety of programs in North America and the Middle East covering strategy, technology, and operations for healthcare providers, payors, and regulators. Dr Tohme leads the big data efforts for Booz & Company in the Middle East.