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About the Authors

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Ilham Bennani is Head of the Technological Innovation Department in the Moroccan Industrial and Commercial Property Office (OMPIC). She is responsible for managing operations dealing with innovation, including activities with universities, engineering schools, and research centres. She is also in charge of the management of training activities in the Moroccan Academy of Intellectual Property and Commercial (AMAPIC), created in 2012 by OMPIC. Since 1992, she has held several positions, including Head of Patents Service, Head of Industrial Design Service, and Head of the Patent and Industrial Designs Department at OMPIC. She has taken part in many courses at the World Intellectual Property Organization, the European Patent Office, and the USPTO Global Intellectual Property Academy. She received an Engineering Diploma in Process Engineering in 1991 from the Engineers Mohammedia School (EMI) in Morocco and a Master of Organic Chemistry in 1989 from the Science Faculty, University Sidi Mohammed Ben Abdellah Fes in Morocco.

Alexandra L. Bernard joined Cornell University in September 2013. She is the Project Manager of the Global Innovation Index 2014. Her previous professional experience includes working as a senior consultant in the transfer pricing international tax team at PwC in Melbourne, Australia. Prior to that she worked as a financial analyst for Australia and New Zealand Banking Group. She has also worked as a senior event coordinator for an Australian event management company, which involved running tour marketing campaigns, brand management activations, and social media development. She obtained her Bachelor of Commerce from Monash University in Melbourne, Australia.

Marwan Berrada is from Rabat, Morocco. At the Ministry in Charge of Moroccans Living Abroad and Migration Affairs, he was Head of Research and Economic Action between 2011 and 2012 and has been Head of the Networks Skills Development since 2012. He ensures the monitoring and coordination of the creation of several Diaspora experts networks, including geographic networks (Germany, France, Canada, USA) and thematic ones (World Moroccan Medical Skills Network). He has represented the Ministry in several meetings and conferences abroad, including in France, Spain, Italy, Germany, Slovenia, Canada, Egypt, and the United Arab Emirates. He holds a Bachelor's degree in Geography (2006) and a Master of Country Planning (2008) from the Mohammed V University in Rabat.

Ahmad Bin Byat is the Founding Chairman of du and one of the most prominent corporate leaders in Dubai. He holds a number of high-ranking directorial positions and plays an instrumental role in leading key economic initiatives designed to drive Dubai's knowledge-based economy forward. He is currently Chief Executive Officer of Dubai Holding, a member of the Board of Trustees at Dubai School of Government, and Director General at Dubai Technology and Media Free Zone Authority. Mr Bin Byat has also held a number of other senior roles, including stints as Executive Chairman of TECOM Investments; Chairman of Dubai Real Estate Corporation (DREC); Secretary General of the Dubai Executive Council; President of the Dubai Government Excellence Programme; Chairman of the Dubai Education Council; a member of the Board of Trustees for Zayed University; Chairman of the Board of Directors at The Consulting Office; and a member of the Board of Thuraya Telecommunications Company. Additionally, he is a former Member of the Supreme Committee for the Supervision of the Telecommunication Sector in the UAE and the Dubai Supreme Fiscal Committee. He is a highly resourceful and inspiring corporate leader successful in building high-performing teams, creating partnerships, and nurturing long-term relationships.

Nour-Eddine Boukharouaa is from Beni Mellal, Morocco, and joined the Moroccan Industrial and Commercial Property Office (OMPIC) in 2005 as a Patent Engineer Examiner in charge of the examination of patents in areas such as thermal energy, plastics, and building materials. He has undergone training programmes given by the World Intellectual Property Organization (WIPO), the European Patent Office, and the USPTO Global Intellectual Property Academy. Currently Mr Boukharouaa is in charge of innovation enhancement at OMPIC. His main duties concern developing a patent system in Morocco for universities, R&D centres, and small and medium-size enterprises. He has conducted many training programmes for national and international organizations such as WIPO and the Organization of Islamic Cooperation (OIC). He obtained a Baccalaureate degree from Ecole Royale de l'Air in Marrakech in 1999. In 2005, he graduated from the National School of Applied Sciences in the field of Industrial Engineering, and in 2012, he followed a training programme in Licensing and Technology Commercialisation at the University of California, Davis.

Abdelhak Chaibi is an expert in innovation management, and has worked since 2000 at R&D Maroc (Association R&D Morocco). R&D Maroc's general mission is to initiate, implement, and foster innovation and research development and to conduct activities that accelerate innovation in industry, business, and society. As Project Manager, he manages projects to facilitate the transfer and synergy among technology companies, R&D laboratories, and research institutions. Mr Chaibi is a member of several expert groups on measuring innovation; a member of the Ad Hoc Committee for Monitoring Indicators of Science and Technology, chaired by the Academy of Science and Technology; and a member of RDT (Technological Network of Diffusion). Since July 2008, Mr Chaibi has coordinated two Seventh Framework coordination and support projects within R&D Maroc: M2ERA (a bilateral project for integrating Morocco into the European research area, 2009–2012) and MOBILISE—Morocco and the EU: Strengthening Bilateral Links in Innovation and Science for Economy (2012–2015).

Salma Dinia has attended several trainings related to science, technology, innovation, and entrepreneurship management and evaluation. She joined the National Centre for Scientific and Technical Research (CNRST) in 1993 as a Researcher at the Remote Sensing and Digital Image Processing Lab. In 2003, she managed a national research programme called PROTARS3 (among 120 projects funded, 13 projects were supported to promote enterprises' competitiveness). In 2004, she joined the Moroccan Incubation and Spin-offs Network (Réseau Maroc Incubation et Essaimage, or RMIE) and became the Manager of this network in 2005 (which has 14 incubators and has funded more than 50 start-ups). Since 2006, she has worked as Head of Relations with Enterprises Unit, CNRST. Ms Dinia conducted and contributed to several studies and projects dealing with marketing, incubation, entrepreneurship, and innovation at national and international levels. She organized, contributed, and chaired many national and international workshops and conferences addressing research, innovation, business incubation, and entrepreneurship issues and has consulted nationally on these topics. During the last 10 years, she has been involved in science technology and innovation programmes supported by the European Investment Bank, the European Union, and programmes of bilateral and multilateral cooperation. Ms Dinia has an Engineering Diploma in Civil Engineering (Hydraulic).

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 centre of excellence in the digital economy. 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 a number of 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). Professor Dutta obtained his PhD in Computer Science and his MSc in Business Administration from the University of California at Berkeley.

Abdesselam El Ftouh is a former Inspector of Trade at the Ministry of Trade and Industry in Morocco, and he joined the administration of the Prime Minister as a Research Officer and Policy Officer Representative to the Head of Government. He served in the Department of Economic Affairs in the 1980s, where he was responsible for monitoring several strategic economic sectors and worked on structural adjustment and Moroccan economic liberalization. He participated in building the Administration in charge of Privatization in Morocco, which he joined in 1991, becoming the Director and Coordinator of Transfer Operations in 1995. Four years later, in July 1999, he was appointed Director of the Economic Development Division at the Hassan II Foundation for Moroccans Residing Abroad; he has been the General Treasurer of the same foundation since April 2011. Mr El Ftouh supervised several studies in economic, financial, and banking fields as he participated in research on Moroccan migration, both at the Hassan II Foundation and the university, and he has led several international cooperation programmes on migration. He is also a seminar leader for Master's degree programmes in the field of migration at the University Mohamed V Agdal Rabat. He is a member of the Moroccan Association for Research on International Migration, where he accompanied, as a member of the scientific council of the research programme Mim-AMERM, 30 research projects; he has also made other contributions in the area of international migration of Moroccans.

Omar Elyoussoufi Attou is the Head of the Division of Innovation and Valorization (Directorate of Scientific Research and Innovation, Ministry of Higher Education, Scientific Research and Executive Training, Rabat Morocco). A Senior Engineer and a national expert in innovation policies and R&D valorization, Mr Elyoussoufi has worked for 12 years at the Directorate of Scientific Research, where he has experience in innovation policies and has been involved in various projects at national and regional levels. During the last 10 years, his work has focused on establishing and managing national programmes that aim to strengthen and boost the valorization of research, to stimulate innovation and university-business linkage, and to enable new youth employment opportunities through the creation of technology start-ups, with the ultimate goal of upgrading the national system of research and innovation. He also participated in the elaboration of several studies related to innovation and the valorization of research results (Evaluation Study of the Potential of Prototyping Activities in Morocco, Patent and Inventive Activity in Morocco, and Venture Capital and the Financing of Innovation in Morocco). Mr Elyoussoufi holds an Engineering Diploma in Production Systems from the National School of Mineral Industry (Morocco) and a Post-Graduate Diploma in IT from the National School of Computer Science and Systems Analysis (Morocco).

Adil El Maliki is from Casablanca, Morocco. He joined the Division of Chemical Industry of the Ministry of Industry and Trade in 1993, and became Head of the Department of Building Materials Industries in 1996. During 1997, he was in charge of central business registry and became Head of the Inventions and Trade Studies division until 2000. After the creation of the OMPIC (Moroccan Industrial and Commercial Property Office) in 2000, he was responsible for the Information and Communication Department until 2007. Since 2008, he has been Director General of the OMPIC. He has been an administrator of the Moroccan Centre for Innovation since October 2012, and a member of R&D Maroc since July 2011. He is the president of the Standing Committee on the Law of Trademarks, Industrial Designs and Geographical Indications, and has participated in the establishment of the ACTA (Anti-Counterfeiting Agreement) treaty. In 1992, he graduated from Mohammadia Engineering School in Chemistry Process.

Rafael Escalona Reynoso has been Lead Researcher at the Global Innovation Index since October 2013. His previous professional experience includes working as Economic and Science and Technology Policy Advisor to the Senate of Mexico and as a member of the Trade and Foreign Investment Advisory Board at the office the President of Mexico. His research experience at Cornell University includes comparative studies between Mexico and Spain on the regulatory aspects of modern biotechnology and the biosafety of genetically modified organisms (GMOs), and on the reach of intellectual property rights (IPRs) in the information technologies era. He holds a PhD in Regional Planning and a Master in Public Administration from Cornell University as well as a BA in Economics from Universidad Panamericana in Mexico.

Karima Farah has been Director of Patents and Technological Innovation Department in the Moroccan Industrial and Commercial Property Office (OMPIC) since 2011. Her main duties are the management of national and international patent applications' processing procedures and the promotion of the use of the patent system. Ms Farah joined OMPIC in 2001 initially as an Engineer in the Patent Service. She then held the position of Trademarks Service Head. From 2007 to 2011, she headed the Department of Trademarks and Distinctive Signs in OMPIC. Before joining OMPIC, Ms Farah began her career in the private sector in 1991, initially with a position where she was responsible for Maintenance, then as a technical director of a company operating in the textile sector. Ms Farah holds an Engineering Diploma in Electrotechnics and Power Electronics.

Naushad Forbes is Director of Forbes Marshall, India's leading Steam Engineering and Control Instrumentation firm. He chairs the Steam Engineering Companies within the group. Dr Forbes was a Lecturer and Consulting Professor at Stanford University in the Program in Science, Technology and Society from 1987 to 2004. He has held various positions in the Confederation of Indian Industry and is Vice President for 2014–15.

Leonid Gokhberg is the First Vice-Rector of the National Research University – Higher School of Economics (HSE)—one of the most prominent universities in Russia—and Director of HSE Institute for Statistical Studies and Economics of Knowledge. From 1988 to 1991 he was Head of the Laboratory for S&T Statistics at the Research Institute for Statistics, and from 1991 to 2002 was Deputy Director at the Centre for Science Research and Statistics (CSRS) in Moscow. Professor Gokhberg coordinated more than 300 national and international projects sponsored by various national authorities, regional agencies, and industrial companies as well as by the European Commission, the World Bank, UNIDO, the US National Science Foundation, and IASA among others, in the areas of S&T and innovation indicators, analyses, foresight, and policies. Professor Gokhberg has served as a consultant to the OECD, Eurostat, UNESCO, the UN Economic Commission for Europe, and other international and national agencies. He is also Editor-in-Chief of the Moscow-based scientific journal *Foresight-Russia*, which ranks 1st in science studies and in management and 4th in economics according to the Russian National Science Citation Index. Professor Gokhberg is a member of the OECD and Eurostat expert groups on indicators for S&T, information society, and education and serves on the International Advisory Board of the Global Innovation Index (WIPO/INSEAD). In 2011, he was appointed Chairman of the Expert Group on Innovation Policy established by the Government of the Russian Federation to provide recommendations for a Socio-Economic Development Strategy for the Russian Federation until 2020 (Strategy-2020). Professor Gokhberg is the author of over 350 papers published in the Russian Federation and internationally, including several monographs and textbooks for universities. He holds a Doctorate and a Professor Diploma in Economics.

Bruno Lanvin is the Executive Director of INSEAD's European Competitiveness Initiative (IECI). From 2007 to 2012, he was the Executive Director of INSEAD's eLab, managing INSEAD's teams in Paris, Singapore, and Abu Dhabi. He is a Commissioner on the Broadband Commission. From 2000 to 2007, Dr Lanvin worked for the World Bank, where he was inter alia Senior Advisor for E-strategies and Regional Coordinator (Europe and Central Asia) for ICT and e-government issues. He also headed the Capacity Building Practice of the World Bank's Global ICT Department and was 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) at the World Bank. In 2000, Dr Lanvin was appointed Executive Secretary of the G8-DOT Force. Until then, he was Head of Electronic Commerce in the United Nations Conference on Trade and Development (UNCTAD) in Geneva, and occupied various senior positions including Chief of the Cabinet of the Director General of the United Nations in New York, Head of Strategic Planning, and later Chief of the SME Trade Competitiveness Unit of UNCTAD/SITE. He was the main drafter, team leader, and editor of *Building Confidence: Electronic Commerce and Development*, published in January 2000. Since 2002, he has been co-authoring *The Global Information Technology Report* (INSEAD-World Economic Forum-Cornell University); he is currently the co-editor of the *Global Innovation Index* report (INSEAD-WIPO-Cornell University). He holds a BA in Mathematics and Physics from the University of Valenciennes (France), an MBA from Ecole des Hautes Etudes Commerciales (HEC) in Paris, and a PhD in Economics from the University of Paris I (La Sorbonne) in France. A frequent speaker at high-level meetings, he advises a number of global companies and governments and is a member of numerous boards, including that of the Tallinn e-government Academy.

Yassine Ouardirhi has been Division Chief of Development and Promotion of Innovation since 2010 at the Ministry of Industry, Trade, Investment and the Digital Economy in Morocco. He is in charge of the deployment of three strategic axes of the Morocco Innovation strategy: the Governance and Regulatory Framework, Funding and Support, and Talents Mobilization. Before 2010, he held several senior positions, including Head of the Department of Computer Science programmes and coordinator for e-education and ICT Research at the former Moroccan Department of Telecommunications and Information Technologies. Mr Ouardirhi was the project leader of the ICT Observatory in Morocco and a member of the International Working Group of the United Nations (and the African Regional Group) for measuring the information society in the framework of the second World Summit on the Information Society in Tunis (2005). Today he is a proponent of the Innovation Observatory in Morocco, which will be based on the core indicators of the GII. Mr Ouardirhi graduated as Chief Engineer in 1986 from the Ecole Mohammedia of Engineers, Rabat, in Automation and Industrial Computing.

Valentina Poliakova is a Researcher at the Institute for Statistical Studies and Economics of Knowledge, the National Research University – Higher School of Economics (HSE) in Moscow, Russian Federation. Her academic interests include sociological studies of innovation behaviour of populations, science and technology, and medicine as well as the sociology of expertise. Ms Poliakova has participated in a number of research projects related to the examination of public opinion on science and technology, innovative practices of populations, and the social legitimation of innovation. She holds a Master in Sociology with a specialization in the sociological theory and applied social knowledge from HSE.

Michaela Saisana is a Senior Scientific Officer at the Joint Research Centre of the European Commission (Italy). She conducts and coordinates research (a team of 10 post-doc researchers) on multidimensional measures for policy making on social, economic, and environmental issues. She is offering regular training courses on composite indicator development to European Commission Officials and to international organizations and academia. Since 2005, she has audited over 60 well-known composite indicators at the invitation of the United Nations, Transparency International, the World Economic Forum, INSEAD, and the World Intellectual Property Organization, among others. She has co-authored two books: *Handbook on Constructing Composite Indicators: Methodology and User Guide* (OECD/JRC, 2008) and *Global Sensitivity Analysis: The Primer* (2008). Her publications deal with sensitivity analysis, composite indicators, multicriteria analysis, multivariate analysis, data envelopment analysis, and multi-objective optimization (20 peer-reviewed publications, 60 working papers). In 2004 she was awarded the European Commission's JRC Young Scientist Prize in Statistics and Econometrics in recognition of her research on composite indicators. She has a PhD and an MSc in Chemical Engineering.

Andrea Saltelli has worked on physical chemistry, environmental sciences, and applied statistics, publishing over 80 peer-reviewed papers and three books. His main disciplinary focus is on *sensitivity analysis* of model output, a discipline where statistical tools are used to interpret the output from mathematical or computational models; and on *sensitivity auditing*, an extension of sensitivity analysis to the entire evidence-generating process in a policy context. A second focus is the construction of composite indicators or indices. Mr Saltelli presently leads the Econometric and Applied Statistics Unit of the European Commission at the Joint Research Centre in Ispra (I). The Unit, with a staff of 30, develops econometric and statistic applications, mostly in support to the services of the European Commission, in fields such as lifelong learning, inequality, employment, competitiveness, and innovation. He participates to the training of European Commission staff on impact assessment.

Martin Schaaper has been Head of the Science, Technology and Innovation Statistics unit at the UNESCO Institute for Statistics since 2009. His work consists of collecting and analysing internationally comparable STI indicators from all countries in world, as well as developing methodology and building capacity in developing countries for the collection of these indicators. Before joining UNESCO, he worked for eight years for the OECD, where he was responsible for the co-operation with non-OECD countries in the fields of STI and ICT statistics; and six years for various small companies, which were working on a contract basis for Eurostat on a variety of statistics.

Richard Scott is a Policy Analyst at the Organisation for Economic Co-operation and Development (OECD). He currently works within the OECD Centre for Educational Research and Innovation (CERI). His current work examines the skills required for innovation and innovative economies, as well as educational research and development. Before joining CERI, he worked in the OECD Directorate for Science, Technology and Industry as part of the OECD Young Professionals Programme. There, his work predominantly related to science and innovation policy, with a particular focus on the economic impacts of public investment in R&D. Prior to joining the OECD, he worked as a government economist at the Department for Business, Innovation and Skills in the United Kingdom, where he contributed to a range of analysis and policy formulations on labour markets, skills, and industrial policy. He holds an undergraduate degree in Economics from Durham University in the United Kingdom and a Master in Economics from the University of Nottingham.

Sibusiso Sibisi is the CEO of the Council for Scientific and Industrial Research (CSIR) in South Africa, having taken office on 1 January 2002. He previously held the position of Deputy Vice-Chancellor (Research and Innovation) at the University of Cape Town (UCT). Dr Sibisi joined the Department of Computational and Applied Mathematics, University of the Witwatersrand, in 1984 and was a Fulbright Fellow at the California Institute of Technology in 1988. He returned to Cambridge in 1989 to assume a research position at Department of Applied Mathematics and Theoretical Physics (DAMTP) and, in 1991, co-founded a research-based small enterprise at Cambridge. On his return to South Africa in 1997, Dr Sibisi joined Plessey as Executive Director (Research & Development) before joining UCT. He is a former chairman of South Africa's National Advisory Council on Innovation. Dr Sibisi was awarded the Order of Mapungubwe: Silver by President Thabo Mbeki in September 2007 (National Orders are bestowed on South Africans who contribute to the betterment of the country in their respective fields and represent the highest award that a country, through its President, bestows on its citizens). Dr Sibisi serves on the boards of Liberty Life and the Mapungubwe Institute. He is also a member of the advisory board of the UN's World Intellectual Property Organisation. Dr Sibisi was born in Mariannhill, KwaZulu-Natal, South Africa. He completed a BSc (Hons) in Physics at Imperial College, London, and obtained a PhD from the DAMTP, Cambridge University in 1983.

Osman Sultan is an iconic leader in telecommunications. Stemming from his belief that being connected is today a basic human right, Mr Sultan has led many transformations that have had a profound impact on people. He has led du as its CEO since 2006, ensuring that the company continues to remain on a sustainable growth path and set new benchmarks, such as taking the lead in developing smart technologies and investing in broadband for the betterment of people.

Stéphan Vincent-Lancrin is a Senior Analyst and Project Leader at the Organisation for Economic Co-operation and Development (OECD) Directorate for Education and Skills. He is currently responsible for the Innovation Strategy for Education and Training project within the OECD Centre for Educational Research and Innovation (CERI). His current interests cover the nature and level of education and skills that matter in innovation and knowledge societies, the innovation ecology in the education sector, and the measurement of innovation in education. His recent work covers the identification of skills for innovation-driven societies and how education systems can foster them (21st-century skills) through specific curricula, pedagogy, and assessments—at all educational levels. His most recent book, co-authored with Ellen Winner and Thalia Goldstein, is *Art for Art's Sake: The Impact of Arts Education* (OECD Publishing). He also works on STEM education and participates in OECD reviews related to innovation and research systems. Dr Vincent-Lancrin has been working extensively on many facets of higher education and innovation, including the internationalization and future of higher education, and e-learning. He has authored many articles and book chapters and edited several books. Before joining the OECD, he worked as lecturer and researcher in economics at the University of Paris-Nanterre and the London School of Economics. He is a Marie Curie Fellow and a 2007 Fulbright New Century Scholar. He holds a PhD in Economics, a Business School Diploma, and a Master in Philosophy.

David Walwyn is Professor (Engineering and Technology Management) at the Graduate School of Technology Management, Faculty of Engineering, Built Environment and IT, University of Pretoria. He also runs a small company, Reseva, which provides consultancy services in innovation strategy and management, science policy, feasibility studies, programme evaluation, and research management. He has previously worked as the Research Manager at the Council for Scientific and Industrial Research (CSIR), as the CEO of a small biotechnology start-up company (Arvir Technologies), the Commercialization Manager of iThemba Pharmaceuticals, the CEO of eGoli Biotechnology Incubator, the Research Manager (Process Development) at AECI, and in various capacities in other chemical companies. In his academic work, he teaches a course on research methodology and undertakes research in innovation management, health economics, and technology localization, where the latter covers the transformation of the South African manufacturing sector from its resource-dependency to high-value products and services. He also supervises 2 PhD and 20 Master's students. His publications include 25 peer-reviewed articles and book chapters, 24 conference presentations, 21 policy papers, and one patent. Professor Walwyn has a BSc in Chemical Engineering (University of Cape Town) and a PhD in Organic Chemistry (University of Cambridge).

Sacha Wunsch-Vincent is Senior Economic Officer under the Chief Economist at the World Intellectual Property Organization (WIPO). He is one of the main authors of the *World Intellectual Property Report* and the *Global Innovation Index*, and contributes to the new economic work of the organization. His primary research foci and current area of work are concerned with the interaction of innovation, intellectual property, and economic development. Before joining WIPO, he was an Economist at the OECD Directorate for Science, Technology, and Industry for seven years. Before that he was the Swiss National Science Fellow at the Berkeley Center for Law and Technology (University of California, Berkeley) and the Washington-based institute for International Economics. He has served as advisor to organizations such as the World Bank and the World Economic Forum, and has testified before national governments and parliaments. Dr Wunsch-Vincent holds a Master of International Economics from MERIT, University of Maastricht, and a PhD in Economics from the University of St. Gallen, Switzerland. He teaches International Economics at Sciences Po Paris.