

EMERALD  
STUDIES IN  
POLITICS AND  
TECHNOLOGY

# POLITICS AND TECHNOLOGY IN THE POST-TRUTH ERA

EDITED BY  
ANNA VISVIZI  
MILTADIS D. LYTRAS



# **POLITICS AND TECHNOLOGY IN THE POST-TRUTH ERA**

# **EMERALD STUDIES IN POLITICS AND TECHNOLOGY**

**Series Editors: Anna Visvizi and Miltiadis D. Lytras**

This series focuses broadly on the intersection of politics and technology. Its objective is to identify and explore the critical junctions where politics and ICT intersect to showcase the opportunities, raise awareness, and pre-empt impending risks for our societies.

The series has a broad scope and will include a variety of topics, including but not limited to: cyber intelligence; government analytics; user-generated data and its impact on human society; technology in health care and public services; quantitative measures in political discourse; public engagement with politics through technology – for example, blogs, social media, freedom of the internet; text mining; e-participation in politics and digital diplomacy; international trade on the ICT market; information security risks; political communication in online social networks; big data; e-government and e-democracy; digital activism; ICT in developing nations; digital media; smart cities; disruptive effects of technology in politics; internet governance; citizen journalism; the politics of migration and ICT; and the European Union and ICT.

We are actively seeking proposals for this exciting new series – please contact the editors if you are interested in publishing in this Series.

Interested in publishing in this series? Please contact the series' editors, Drs Anna Visvizi and Miltiadis D. Lytras ([avisvizi@acg.edu](mailto:avisvizi@acg.edu) and [mlytras@acg.edu](mailto:mlytras@acg.edu)).

# **POLITICS AND TECHNOLOGY IN THE POST-TRUTH ERA**

EDITED BY

**ANNA VISVIZI**

*Institute of East-Central Europe (IESW), Poland*

**MILTADIS D. LYTRAS**

*Effat University, Jeddah*



United Kingdom – North America – Japan – India – Malaysia – China

Emerald Publishing Limited  
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2019

Selection and editorial matter © Anna Visvizi and Miltiadis D. Lytras. Published under exclusive licence. Individual chapters © respective Authors.

**Reprints and permissions service**

Contact: [permissions@emeraldinsight.com](mailto:permissions@emeraldinsight.com)

No part of this book may be reproduced, stored in a retrieval system, transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise without either the prior written permission of the publisher or a licence permitting restricted copying issued in the UK by The Copyright Licensing Agency and in the USA by The Copyright Clearance Center. Any opinions expressed in the chapters are those of the authors. Whilst Emerald makes every effort to ensure the quality and accuracy of its content, Emerald makes no representation implied or otherwise, as to the chapters' suitability and application and disclaims any warranties, express or implied, to their use.

**British Library Cataloguing in Publication Data**

A catalogue record for this book is available from the British Library

ISBN: 978-1-78756-984-3 (Print)

ISBN: 978-1-78756-983-6 (Online)

ISBN: 978-1-78756-985-0 (Epub)



ISOQAR certified  
Management System,  
awarded to Emerald  
for adherence to  
Environmental  
standard  
ISO 14001:2004.

Certificate Number 1985  
ISO 14001



INVESTOR IN PEOPLE

# Contents

List of Figures	<i>ix</i>
List of Tables	<i>xi</i>
List of Contributors	<i>xv</i>
<b>Chapter 1 Politics and ICT: Issues, Challenges, Developments</b> <i>Anna Visvizi and Miltiadis D. Lytras</i>	<i>1</i>
<b>Chapter 2 From the Freedom of the Press to the Freedom of the Internet: A New Public Sphere in the Making?</b> <i>Cláudia Toriz Ramos</i>	<i>9</i>
<b>Chapter 3 Diffusion Patterns of Political Content Over Social Networks</b> <i>Marçal Mora-Cantallops, Zhengqi Yan and Salvador Sánchez-Alonso</i>	<i>23</i>
<b>Chapter 4 Contemporary Politics and Society: Social Media and Public Engagement in Belarus</b> <i>Victor Shadurski and Galina Malishevskaya</i>	<i>43</i>
<b>Chapter 5 Modeling Public Mood and Emotion: Blog and News Sentiment and Politico-economic Phenomena</b> <i>Mu-Yen Chen, Min-Hsuan Fan, Ting-Hsuan Chen and Ren-Pao Hsieh</i>	<i>57</i>
<b>Chapter 6 Political Campaigns, Social Media, and Analytics: The Case of the GDPR</b> <i>Nikolaos Dimisianos</i>	<i>73</i>

<b>Chapter 7 Assessing Compliance of Open Data in Politics with European Data Protection Regulation</b>	89
<i>Francesco Ciclosi, Paolo Ceravolo, Ernesto Damiani and Donato De Ieso</i>	
<b>Chapter 8 ICT, Politics, and Cyber Intelligence: Revisiting the Case of Snowden</b>	115
<i>Emanuel Boussios</i>	
<b>Chapter 9 Government Surveillance, National Security, and the American Rights: Using Sentiment Analysis to Extract Citizen Opinions</b>	129
<i>Lily Popova Zhuhadar and Mark Ciampa</i>	
<b>Chapter 10 Information Security Risks in the Context of Russian Propaganda in the CEE</b>	143
<i>Aleksandra Kuczyńska-Zonik and Agata Tatarenko</i>	
<b>Chapter 11 The ICT and Its Uses: Fighting Corruption and Promoting Participatory Democracy – The Case of Romania</b>	159
<i>Cristina Matiuta</i>	
<b>Chapter 12 Virtual Currencies in Modern Societies: Challenges and Opportunities</b>	171
<i>Higinio Mora, Francisco A. Pujol López, Julio César Mendoza Tello and Mario R. Morales</i>	
<b>Chapter 13 Digital Diplomacy in Practice: A Case Study of the Western Balkan Countries</b>	187
<i>Gorazd Justinek, Sabina Carli and Ingrid Omahna</i>	
<b>Chapter 14 Social Media and the Brazilian Politics: A Close Look at the Different Perspectives and “The Brazil I Want” Initiative</b>	203
<i>Cleber Pinelli Teixeira, Jônatas Castro dos Santos, Reisla D’Almeida Rodrigues, Sean Wolfgang Matsui Siqueira and Renata Araujo</i>	
<b>Chapter 15 Evaluation of the National Open Government Data (OGD) Portal of Saudi Arabia</b>	221
<i>Stuti Saxena</i>	

<b>Chapter 16 E-Government Strategy and Its Impact on Economic and Social Development in Saudi Arabia</b>	237
<i>Hussein Alhashimi</i>	
<b>Chapter 17 Romancing Top Management: The Politics of Top Management Support in Large Information System Projects</b>	245
<i>Gloria H. W. Liu and Cecil E. H. Chua</i>	
<b>Chapter 18 Trade in ICT, International Economy, and Politics</b>	259
<i>Katarzyna Żukrowska</i>	
<b>Chapter 19 Conclusion: Politics and ICT – Taking Stocks of the Debate</b>	283
<i>Miltiadis D. Lytras and Anna Visvizi</i>	
Index	287



*This page intentionally left blank*

# List of Figures

## Chapter 1

Fig. 1	Politics and Technology Word Cloud.	3
Fig. 2	Politics and ICT: Key Issues and Areas Influence.	4

## Chapter 3

Fig. 1	The Brexit Tweet Network.	37
Fig. 2	In-degree CAR for Neutral, Positive, and Negative Stances within the Event Window.	37
Fig. 3	Sentiment CAR for Neutral, Positive, and Negative Stances within the Event Window.	38

## Chapter 5

Fig. 1	Research Framework.	65
Fig. 2	Financial News of Single Company and TAIEX Prediction.	67
Fig. 3	Financial News of TAIWAN 50 and TAIEX Prediction.	68
Fig. 4	Politics News and TAIEX Prediction.	68
Fig. 5	Financial and Political News and TAIEX Prediction.	69

## Chapter 7

Fig. 1	Scheme Related to the Relationship between the Different Categories of Data.	93
Fig. 2	The New Open Data Lifecycle by European Data Portal.	111

## Chapter 9

Fig. 1	Q1 Topic Sentiment Versus Polarity.	136
Fig. 2	Q2 Topic Sentiment Versus Polarity.	137
Fig. 3	Q3 Topic Sentiment Versus Polarity.	138
Fig. 4	Q4 Topic Sentiment Versus Polarity.	139

## **Chapter 12**

Fig. 1	How Virtual Currency Works.	173
Fig. 2	Autonomous Key Control.	174
Fig. 3	Shared Key Control.	175

## **Chapter 14**

Fig. 1	Overall Process of Data Gathering, Extraction, and Handling.	210
Fig. 2	Sample of a Subtitle.	211
Fig. 3	CNI X TBIW Data Occurrences Comparison.	214

## **Chapter 17**

Fig. 1	A Two-stage Process for Selecting Influence Strategies to Obtain Top Management Support.	252
--------	--	-----

## **Chapter 18**

Fig. 1	GVC Model of Cooperation.	275
Fig. 2	Possible Development Path along the Software Value Chain.	279

## **Chapter 19**

Fig. 1	ICT and Politics in the Post-truth Era.	284
--------	---	-----

# List of Tables

## Chapter 2

Table 1	ICT Development Index (2017).	17
Table 2	Human Development Index (HDI) and Inequality-adjusted Human Development Index (IHDI) (2016).	17
Table 3	Freedom on the Net and Freedom of the Press (2017).	18

## Chapter 3

Table 1	Largest Communities in the Network before the Chinese Retaliation.	32
Table 2	Largest Communities in the Network after the Chinese Retaliation.	33
Table 3	In-degree Changes Before and After the Event.	33
Table 4	Eigenvector Centrality Changes Before and After the Event in Liberal Media Accounts.	34
Table 5	In-degree and Eigenvector Centrality Variation before and after the Event for the Main Influencers.	35
Table 6	Communities in the Brexit Twitter Network.	36
Table 7	Top Five Users in the Three Main Communities.	36

## Chapter 5

Table 1	Research Type for Sentiment Classification.	63
Table 2	Literature Review for Sentiment Classification of Elections.	64

## Chapter 7

Table 1	Summary of the Different Concepts of Personal Data.	92
Table 2	Type of Circumstance from Which the Legal Status of the Data Controller Can Be Inferred.	94
Table 3	Strengths and Weaknesses of the Techniques Considered.	97
Table 4	Data Protection Techniques' Common Mistakes and Risks.	99

## **Chapter 9**

Table 1	Issues Regarding How Private Data Are Gathered and Used.	132
---------	--	-----

## **Chapter 10**

Table 1	Specifics of Russian Propaganda in CEE.	151
---------	---	-----

## **Chapter 11**

Table 1	Digital Single Market, Inclusion, and Public Services.	161
---------	--	-----

## **Chapter 13**

Table 1	Digital Diplomacy Review Ranking 2017 and 2016.	192
Table 2	Population and Social Media Penetration.	193
Table 3	Overview of the Facebook and Twitter Accounts (Foreign Ministry and Diplomatic Missions).	194
Table 4	Digital Platforms Including Social Media by Country.	194
Table 5	Frequency of Publishing on Social Media.	195
Table 6	Levels of OGMM and Rankings of Observed Countries.	195

## **Chapter 14**

Table 1	Sample of Keywords Equivalence TBIW x CNI.	211
Table 2	Sample of Salience Result of the Keyword Employment in TBIW.	211
Table 3	Count of Most Commented Keywords Grouped by Region and Ordered by Occurrence Rates in TBIW.	212
Table 4	Comparison between CNI Answers and TBIW Correspondence.	213

## **Chapter 15**

Table 1	Citizen Engagement Models Proposed by Sieber and Johnson (2015).	225
Table 2	Model Proposed for Evaluating OGD Portals.	226
Table 3	Major Facilitators and Hindrances in Re-using Datasets Via the National OGD Portal of Saudi Arabia.	230

## **Chapter 18**

Table 1	ICT Goods Exports. Total, in Millions US\$, 2000–2012.	263
Table 2	Comparison of Five Continents' Creative Industries and Their Share of GNP in 2015 (Billions US\$ and Percentage) and of Jobs Created (Millions and %).	264

Table 3	Value-added in the ICT Sector in Selected States in 2011 (Latest Data Available).	264
Table 4	ICT Employment as a Share of Total Employment (%) for 2011 (Latest Data Available).	265
Table 5	World Exports of Telecommunications and Computer and Information Services, 2014 and 2015.	266
Table 6	J. Williamson's Consensus, with 10 Points Added by D. Rodrick.	267
Table 7	Trade Weighted Tariffs Applied (MFN) Average Tariffs Rates in Trade of EU and US.	269
Table 8	Perceived NTB Index by Business (Index between 0 and 100).	270
Table 9	Major Exporters and Importers of Telecommunications, Computer, and Information Services, 2014 and 2015 (Million US\$ and %).	271
Table 10	Backward and Forward Participation in Regions and Countries in 2000 and 2011 (%).	276
Table 11	Share of Export-added Value in Developed and Developing Countries in Selected Industry Segments.	277
Table 12	Difficulties Suppliers Identify in Entering, Establishing, or Moving Up ICT Chains (% and Number of Suppliers).	279
Table 13	Level of Competition in Selected Telecommunications Markets.	280

*This page intentionally left blank*

# List of Contributors

**Hussein Alhashimi** is a PhD Student and Demonstrator at Computer Science Department, School of Electronics and Computer Science- University of Southampton. Prior coming to the United Kingdom, he had worked as a lecturer at Software Engineering Department, King Saud University. His research interests focus on Software Engineering in particular software development life cycle, software architecture and agile methodologies.

**Renata Araujo** is a Professor and Director of the Board of Education of the Brazilian Computer Society (2018–2019). Professor Araujo's research interests include information systems, digital democracy, digital governance, business process management, and innovation management.

**Emanuel Boussios** is a Visiting Research Scholar at New York University and Assistant Professor at SUNY-Nassau College. His research interests include analyzing American attitudes toward the War on Terrorism and domestic terrorism in the United States, as well as a study of national/international use of drones and on cyber intelligence.

**Sabina Carli** is a Project Manager at the Centre for European Perspective (CEP), Slovenia. She was the United Nations Youth Delegate of Slovenia in 2017/2018. Her research focuses on EU–China relations, international relations in East Asia, language in foreign policy, and transformation of diplomacy.

**Jônatas Castro dos Santos** is an M.Sc. Student at the Federal University of the State of Rio de Janeiro (UNIRIO). He works at Brazilian Institute of Geography and Statistics (IBGE). His main research interests include web of science, semantics and learning, social networks, and geographic information systems.

**Paolo Ceravolo** is an Assistant Professor at the Dipartimento di Informatica, Università degli Studi di Milano. His research interests include data representation and integration, business process monitoring, and empirical software engineering. On these topics, he has published several scientific papers. As a data scientist, he was involved in several international research projects and in innovative startups.

**Mu-Yen Chen**, is a Professor of Information Management at the National Tai-chung University of Science and Technology, Taiwan. His current research



interests include artificial intelligence, soft computing, bio-inspired computing, data mining, deep learning, context-awareness, machine learning, and financial engineering.

**Ting-Hsuan Chen** is an Associate Professor in the Department of Finance at National Taichung University of Science and Technology, Taiwan. Her current research interests include financial institutions, corporate social responsibility, spatial analysis, and data/text mining.

**Cecil E. H. Chua** is an Associate Professor in the Department of Information Systems and Operations Management, University of Auckland, New Zealand. He is a Desk Editor for the Project Management Journal and an Associate Editor for Information & Management and the Information Systems Journal.

**Mark Ciampa** is an Associate Professor in Information Systems, Gordon Ford College of Business, Western Kentucky University in Bowling Green, Kentucky. Dr Ciampa has worked in the IT industry as a Computer Consultant for businesses, government agencies, and educational institutions.

**Francesco Ciclosi** is an Adjunct Professor at Macerata University. As an Analyst and Trainer, responsible for designing distributed systems services, his research interests include data protection, risk analysis, and information security management systems evolution.

**Ernesto Damiani** is a Professor at Università degli Studi di Milano, Leader of the SESAR Research Lab, Leader of the Big Data Initiative at the EBTC/Khalifa University in Abu Dhabi, UAE. He is the Principal Investigator of the H2020 TOREADOR project. He was a recipient of the Chester-Sall Award from the IEEE IES Society (2007). He was named ACM Distinguished Scientist (2008) and received the Stephen S. Yau Services Computing Award (2016).

**Donato De Ieso** is the Founder of Dilium S.r.l. (2017) and InPolitix S.r.l. (2017), CEO at InPolitix. Donato De Ieso participated as an invited speaker to different business forums and conferences such as GLocal 2016 in Varese, Spaghetti Open-Data 2016 in Trento, Frontiers Conference 2017 and FutureLand 2017 in Milan. The areas of his expertise include virtual reality, augmented reality and artificial intelligence..

**Nikolaos Dimisianos** is a Management Information Systems graduate of Derec College – The American College of Greece. His research interests include innovation, digital transformation, business, and technology integration.

**Min-Hsuan Fan** is an Associate Professor of Information Management at National Taichung University of Science and Technology, Taiwan. His current research interests include artificial intelligence and financial engineering.

**Ren-Pao Hsieh** is a Graduate Student in Information Management at the National Taichung University of Science and Technology, Taiwan. His current research interests include artificial intelligence and financial engineering.

**Gorazd Justinek** is an Executive Director at the Centre for European Perspective (CEP), Slovenia. Dr. Justinek is a Diplomat and Assistant Professor of International Business at the Graduate School of Government and European Studies in Kranj, Slovenia. He is the Founder and the Editor-in-Chief of the *International Journal of Diplomacy and Economy* (UK).

**Aleksandra Kuczyńska-Zonik** is an Assistant Professor at the Institute of Central Europe, before at Institute of East-Central Europe, Poland. Her expertise includes politics and security in East-Central Europe, Russia's influence in the post-Soviet space, the Baltic states, Russian diaspora, and Soviet heritage.

**Gloria H. W. Liu** is a Lecturer (Assistant Professor) in the Department of Operations Management & Information Systems, Xi'an Jiaotong-Liverpool University. Her research interests include project control and coordination, knowledge management, and enterprise systems implementation/upgrade.

**Miltiadis D. Lytras, Ph.D.**, is a Research Professor at Deree College – The American College of Greece and Visiting Researcher at Effat University; as well as a Researcher, Editor, Lecturer, and Consultant. His expertise covers issues pertinent to the broad field defined by cognitive computing, information systems, technology-enabled innovation, social networks, computers in human behavior, and knowledge management. He focuses on bringing together advances in ICT and knowledge management to advance socio-economic sustainability and citizens' wellbeing.

**Galina Malishevskaya** is a Ph.D. Candidate, Deputy Director (Belapan Information Agency) and former Editor-in-Chief of the independent newspaper *Komsomolskaya Pravda in Belarus*. As a Media Expert, Consultant, and Researcher, her expertise includes media trends analysis; political communications; new media development and monetization in digital environment, social media influence, and social activism; bilateral relations with neighboring countries and regional cooperation; Union State of Belarus and Russia.

**Cristina Matiuta** is an Associate Professor of Political Science at the University of Oradea, Romania. Author of several books and various articles in refereed journals. Her research interests cover the areas of active citizenship, governance, identity, and migration.

**Julio César Mendoza Tello** is an Assistant Professor at the Central University of Ecuador. His research interests are payment systems, cryptocurrencies, and electronic commerce.

**Higinio Mora** is an Associate Professor at the Computer Technology and Computation Department, and a Researcher of Specialized Processors Architecture Laboratory, University of Alicante, Spain. His areas of research interest include computer modeling, computer architectures, high performance computing, internet of things, and cloud computing paradigm.

**Marçal Mora-Cantallops** is an Industrial and Computer Engineer, Ph.D. in Communication, Information, and Technology in the Web Society by the University of Alcalá, Spain. He is currently interested in the fields of social network analysis, data science, and game studies.

**Mario R. Morales** is an Assistant Professor in the Faculty of Engineering, Physical Sciences and Mathematics, Central University of Ecuador in Quito (Ecuador). The areas of his expertise include virtual currencies, new business models, sustainable development, and e-commerce.

**Ingrid Omahna** is a Project Assistant at the Centre for European Perspective, focusing specifically on digital diplomacy projects. Her main research interests include transnational corporations and their influence on economic development of least developed countries.

**Cleber Pinelli Teixeira** is a Ph.D. Candidate in Information Systems at the Federal University of the State of Rio de Janeiro (UNIRIO), Brazil. He is currently a member of Semantics and Learning research group; his main research interests include searching as learning, social search, collaborative learning, and web science.

**Francisco A. Pujol López** is an Associate Professor in the Computer Technology, Department of the University of Alicante. He has several papers. His research interests focus on biometrics, pattern recognition, and computer parallel architectures.

**Reisla D'Almeida Rodrigues** is an M.Sc. Student at the Federal University of the State of Rio de Janeiro (UNIRIO). Her research topics comprise information systems, collaboration, semantics, social networks, and social learning.

**Salvador Sánchez-Alonso**, Associate Professor, is a Senior Member of the Information Engineering group, a research unit dependent of the Computer Science Department of the University of Alcalá, Spain. Author of a good number of publications in the last 10 years, his current research interests include social network analysis applications, data science, blockchain technologies, and technology-enhanced Learning.

**Stuti Saxena** is a Ph.D. Candidate at the Central University of Haryana, India. Her research interests include open government data.

**Victor Shadurski** is a Professor and Dean of the Faculty of International Relations of Belarusian State University. He coordinates (jointly with the Raoul Wallenberg Institute) several international projects in the field of human rights. His research interests include problems of the Belarusian foreign policy, bilateral relations of country, and regional integration on the example of the Baltic Sea Region.

**Sean W. M. Siqueira** is an Associate Professor of the Federal University of the State of Rio de Janeiro (UNIRIO). He coordinates the Semantics and Learning Research Group at UNIRIO. His research areas include web science, information systems, and technology-enhanced learning.

**Agata Tatarenko**, Ph.D., is an Assistant Professor at the Institute of Central Europe, before at Institute of East-Central Europe, Poland. Areas of expertise include memory studies, including oral history and politics of memory in East-Central Europe, and French foreign policy.

**Cláudia Toriz Ramos** is an Assistant Professor at Universidade Fernando Pessoa, Porto, Portugal, and a Researcher at CEPESE (Porto). Her research interests cover European integration (theories of political integration, democratic procedures and legitimacy, party politics), and the theory and practice of democracy and democratization.

**Anna Visvizi**, Ph.D., is an Associate Professor at Deree College – The American College of Greece, Greece and Visiting Researcher at Effat University; researcher, editor, policy advisor, and lecturer. Dr Visvizi's expertise covers issues pertinent to the intersection of politics, economics, and ICT, which translates in her research and advisory role in such areas as international safety and security, international collaboration, international organizations (especially the OECD and the EU), smart cities and smart villages, politics and policy of migration, and innovation promotion.

**Zhengqi Yan** is a Graduate Student in Business Data Analysis, University of Alcalá, Spain. His interests include international investment and international trade, and the trade between Spain and China in particular.

**Lily Popova Zhuhadar** is an Associate Professor in the Computer Information Systems, Department of Western Kentucky University, USA. Her research interests include semantic web, smart cities, and sentiment analysis.

**Katarzyna Żukrowska** is a Professor and Director of the International Studies Institute, Warsaw School of Economics, Poland. An Economist and Political Scientist, her research interests focus on international economic relations, including economic security, international trade, FDI transfers and development.