

## Cambridge Handbook of Qualitative Digital Research

Big data and algorithmic decision-making have been touted as game-changing developments in management research, but they have their limitations. Qualitative approaches should not be cast aside in the age of digitalization, since they facilitate understanding of quantitative data and the questioning of assumptions and conclusions that may otherwise lead to faulty implications being drawn, and – crucially – inaccurate strategies, decisions and actions. This handbook comprises three parts: Part I highlights many of the issues associated with ‘unthinking digitalization’, particularly concerning the over-reliance on algorithmic decision-making and the consequent need for qualitative research. Part II provides examples of the various qualitative methods that can be usefully employed in researching various digital phenomena and issues. Part III introduces a range of emergent issues concerning practice, knowing, datafication, technology design and implementation, data reliance and algorithms, and digitalization.

BOYKA SIMEONOVA is Associate Professor of Innovation at the University of Leicester School of Business. Boyka is an expert in innovation, digitalization, knowledge and strategic management, has published in leading journals in these topics, and is a co-editor of the book, *Strategic Information Management: Theory and Practice*, 5th Edition.

ROBERT D. GALLIERS is the University Distinguished Professor Emeritus and former Provost, Bentley University, and Professor Emeritus and former Dean, Warwick Business School. He received the AIS LEO Award for exceptional lifetime achievement in Information Systems in 2012 and was the founding editor-in-chief of *The Journal of Strategic Information Systems*. His work on research methods has been particularly well cited.

# Cambridge Handbook of Qualitative Digital Research

Edited by

**BOYKA SIMEONOVA**

University of Leicester, UK

**ROBERT D. GALLIERS**

Bentley University, USA

and

Warwick Business School, UK



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## Contributors

**Saeed Akhlaghpour** is a senior lecturer in business information systems at the UQ Business School, University of Queensland. Previously, he held academic positions at Middlesex University London (UK) and McGill University (Canada) – where he also obtained his PhD. Saeed conducts research on digital health transformation and data protection. He has published in *American Journal of Sociology*, *Journal of the Association for Information Systems*, *Journal of Information Technology*, *Information and Organization*, *Journal of the American Medical Informatics Association* and the *Best Paper Proceedings of Academy of Management*. He is currently a chief investigator in an Australian Research Council (ARC) funded project studying digital transformation of health services in Queensland.

**Jonas Valbjørn Andersen** is an associate professor of digital research methods and data in organizations at the IT University of Copenhagen. His research aims to contribute to insights on strategy, management and organizing related to digitally distributed information systems such as Blockchain, Internet of Things (IoT), algorithmic decision-making and digitally distributed organizations through digital trace data analysis, as well as complex systems modelling and simulation. He holds a PhD in Information Systems and Management from Warwick Business School, University of Warwick, UK.

**Marie-Claude (Maric) Boudreau** is Associate Professor and Head of the Department of Management Information Systems at the University of Georgia's Terry College of Business. Her research interests revolve around

the organizational change induced by information technology, primarily leveraging qualitative approaches. More specifically, she focuses on how IT can transform social systems in the particular context of the workplace. She also has a keen interest in the role played by information systems to support environmental sustainability, and has co-developed the concept of Energy Informatics. Dr Boudreau received a PhD degree in Computer Information Systems from Georgia State University, a Diplôme d'Enseignement Supérieur Spécialisé from l'École Supérieure des Affaires de Grenoble (France) and an MBA from l'Université Laval in Quebec (Canada). She has published in many journals, including *Organization Science*, *Information Systems Research*, *MIS Quarterly*, *Journal of Management Information Systems*, *The Academy of Management Executive*, *Journal of the AIS*, and other journal outlets and conference proceedings.

**Andrew Burton-Jones** is a professor of Business Information Systems at the UQ Business School, University of Queensland. He has a Bachelor of Commerce (Hons 1) and a Master of Information Systems from the University of Queensland and a PhD from Georgia State University. Prior to his appointment at UQ, he was an associate professor at the Sauder School, UBC, Canada. He conducts research on systems analysis and design, the effective use of information systems and several methodological topics. He serves as Editor-in-Chief of *MIS Quarterly* and has served on the editorial boards of several other journals. For the past five years, he has been conducting an in-depth longitudinal study of the digital

transformation of public hospitals. Prior to his academic career, he was a senior consultant in a big-4 accounting/consulting firm.

**Hameed Chughtai** is an ethnographer and Senior Lecturer (Associate Professor) at Lancaster University, UK. His research lies at the intersection of information systems and critical social theory and ethnographically explores the everyday practices of digital work, body, gender, place and power. His current research interests include decolonial approaches to research and studying the ways in which marginalized populations such as Indigenous Peoples engage with, adapt and use information technologies in their practices. His research has appeared in journals such as the *European Journal of Information Systems*, *Journal of Contemporary Ethnography*, *Information Systems Journal*, *Computers in Human Behavior* and *Communications of the Association for Information Systems*, and in various conference proceedings. He currently serves as a guest associate editor of *Information Systems Journal*'s special issue on Sustainable Visitor Economy and as Secretary of the International Federation of Information Processing (IFIP) Working Group 9.5 'Our Digital Lives'.

**David Coghlan** is Professor Emeritus and Fellow Emeritus at the Trinity Business School, Trinity College Dublin, Ireland. He is author of over 200 articles and book chapters. Recent books include *Collaborative Inquiry for Organization Development and Change* (2021) and *Doing Action Research in Your Own Organization*, 5th Edition (2019). He is co-editor of *The Sage Encyclopedia of Action Research* (2014).

**Paul Coughlan** is Professor in Operations Management at Trinity Business School, Trinity College Dublin, Ireland. His research explores collaborative strategic improvement of operations through network action learning.

**Nicola Ens** is a PhD fellow at the department of digitalization, Copenhagen Business School.

She works at the intersections of IS, organization theory and sociologies of work, using ethnographic methods to investigate the changing nature of work on digital labour platforms. She is currently conducting an ethnography of fashion resellers drawing on both traditional and digital ethnographic methods. She has presented her work at top conferences, including the European Group for Organizational Studies and the International Conference on Information Systems.

**Samer Faraj** is a professor at McGill University's Desautels Faculty of Management, where he holds the Canada Research Chair in Technology, Innovation, and Organizing. His current research focuses on complex collaboration and on how emergent technologies are allowing new forms of coordination and organizing to emerge. He has published in outlets such as *Organization Science*, *Management Science*, *MIS Quarterly*, *Academy of Management Journal* and *Annals of Emergency Medicine*.

**Guy Fitzgerald** is Emeritus Professor of Information Systems (IS) at Loughborough University. Previously he has worked at Brunel, Birkbeck, Oxford and Warwick universities. He has also been a practitioner with companies such as British Telecom, Mitsubishi and CACI Inc., International. His research interests are concerned with the effective management and development of IS, undertaking research in the areas of IS development methodologies, IS strategy, outsourcing, flexibility and agility, publishing widely in these areas. Guy was elected an AIS (Association for Information Systems) Fellow in 2014 and is a member of the AIS College of Senior Scholars. He is co-founder and was for twenty-five years joint Editor-in-Chief of the *Information Systems Journal*. He is the author (with David Avison) of a major text titled *Information Systems Development: Methodologies, Techniques and Tools*. He has been President of UKAIS and Vice-President (Publications) of AIS. He was a Research Evaluation Exercise sub-panel member responsible for IS (2014–2020).

**Robert D. Galliers** is the University Distinguished Professor Emeritus and former Provost, Bentley University, and Professor Emeritus and former Dean, Warwick Business School. He has received the Association of Information Systems AIS LEO Award for exceptional lifetime achievement in Information Systems in 2012 and was the founding Editor-in-Chief of *The Journal of Strategic Information Systems* until December 2018. He has published in excess of 100 journal articles and fourteen books and his work on research methods is particularly well cited.

**Lakshmi Goel** is a professor of Information Systems at the Coggin College of Business, University of North Florida. She received her PhD in Decision and Information Sciences from the University of Houston. Her research works are published in various conferences such as International Conference on Information Systems, Americas Conference on Information Systems, Academy of Management, Hawaii International Conference on System Sciences and European Conference on Information Systems; and journals such as *Management Information Systems Quarterly*, *Journal of the Association of Information Systems*, *Decision Support Systems*, *Information and Management*, *Information and Organization* and *Information Systems Journal*.

**Wendy Arianne Günther** is a researcher at the KIN Center for Digital Innovation, Vrije University Amsterdam (VU). She holds a Bachelor's degree in Computer Science from the University of Amsterdam, a Master's diploma in ICT in Business from Leiden University and a PhD from the VU, School of Business and Economics. Her research focuses on how organizations can successfully leverage data as strategic resources. This includes studying how organizations develop and implement data-driven strategies; how traditional organizations transform into data-driven organizations, and how organizations can develop, manage and integrate data-driven solutions effectively and responsibly.

**Rudy A. Hirschheim** (PhD, University of London; Dr hc University of Oulu; University of Bern) is the Ourso Family Distinguished Professor of Information Systems at Louisiana State University. He has previously been on the faculties of the University of Houston, the London School of Economics and Templeton College of the University of Oxford. He is past Senior Editor for *Information and Organization* and *Journal of the Association for Information Systems*. He is on the editorial boards of *Journal of Management Information Systems*, *Information Systems Journal*, *Journal of Information Technology* and *Journal of Strategic Information Systems*. He was the LEO Award for lifetime achievement recipient in 2013 and Fellow of the Association for Information Systems in 2007.

**Philipp Hukal** is an assistant professor at Copenhagen Business School, Denmark. His research examines digitally enabled innovation within and across organizations, covering topics such as digital platforms, open source software development and digital ventures. He holds a PhD in Information Systems and Management from Warwick Business School, University of Warwick, UK.

**Tina Blegind Jensen** is a professor at the department of digitalization, Copenhagen Business School. Her research focuses on organizational and managerial issues of information systems, with a particular interest in the impact of digital technology on people in organizations. She has published articles in leading journals and frequently presents her work at major conferences on topics such as digital transformation of work, people analytics, sense-making practices and institutional structures. Tina is an editorial board member of leading IS journals and serves in various organizing capacities for major international conferences on management information systems.

**Matthew Jones** is a reader in Information Systems at the Judge Business School and the Department of Engineering at the University of Cambridge. He previously held postdoctoral

positions at the University of Reading and the University of Cambridge, where he was involved in the development of computer-based models for public policy decision-making. His current research interests are concerned with the relationship between information systems and social and organizational change and theoretical and methodological issues in information systems research.

**Mayur P. Joshi** is an assistant professor (lecturer) in FinTech at Alliance Manchester Business School, University of Manchester, UK, and he recently finished his PhD in business administration from Ivey Business School, Western University, Canada. His research examines the phenomenon of organizing for – and in – the digital age, with a focus on data science, AI-enabled analytics tools and other digital innovations in the context of financial and information technology industries. He worked as a banker for several years prior to joining academia, where he was engaged with functions and initiatives such as technology implementation, process improvement and branch banking operations.

**Iris Junglas** is the Noah T. Leask Distinguished Professor of Information Management and Innovation in the Department of Supply Chain and Information Management at the College of Charleston. Over her twenty-five-year career, she has worked for a variety of consulting firms, as well as academia. Her research sits at the intersection of technology innovation and business analytics. Iris has published more than fifty refereed journal articles in outlets, including *European Journal of Information Systems*, *Information Systems Journal*, *Journal of the Association of Information Systems*, *Journal of Strategic Information Systems* and *Management Information Systems Quarterly*.

**Stefan Klein** is Professor for Interorganizational Systems at the School of Business and Economics, University of Münster, Germany, where he is Vice Dean for Internationalization. His current research areas are information infrastructures, network governance, digitization and

risk, and transformation of work. He studies practices of technology use and organizational transformation from an individual to an industry level. Previously he held teaching or research positions at University College Dublin, Ireland; University of Linz, Austria; University of Koblenz-Landau, Germany; University St Gallen, Switzerland; Harvard University; the German Research Center for Computer Science; and University of Cologne, Germany.

**Allen S. Lee** is Professor Emeritus of Information Systems at Virginia Commonwealth University. He served as Editor-in-Chief of *MIS Quarterly* and as a founding senior editor of *MIS Quarterly Executive*. His research programme has involved showing not only how qualitative research can be done rigorously and scientifically, but also how quantitative research equally needs to live up to the requirements of science. He is a fellow of the Association for Information Systems, a LEO Award recipient and a member of the Circle of Compadres of the Information Systems Doctoral Students Association of the KPMG PhD Project.

**Joe McDonagh** is Associate Professor of Business at Trinity Business School, Trinity College Dublin, Ireland. His research, teaching and advisory work focus on the process of leading large-scale strategic, organizational and technological change programmes in civil and public service organizations.

**Nathalie Mitev**, after thirty years in several UK universities, and for seventeen years at the London School of Economics, now teaches workshops on qualitative research methods, thesis writing, epistemology and technology management to doctoral students in various universities and institutes in Europe. Dr Mitev evaluates research programmes in management for funding agencies and articles for academic journals and conferences, and participates in doctoral supervision and assessment. She has published in a range of management and information systems journals and conferences, and has edited several books on sociomateriality

and management based on the Organizations, Artefacts and Practices workshops, and a handbook on research methods.

**Josh Morton** is a lecturer in Strategy and Innovation at Leeds University Business School, University of Leeds, UK, and the programme director for the school's MSc in Global Strategy and Innovation Management. He teaches strategy and innovation at different levels of study, including to business leaders. His research focuses on the work of strategists and top managers in organizations, with a particular interest in strategic agility, open forms of strategy and digital innovation.

**Michael D. Myers** is Professor of Information Systems at the University of Auckland Business School, New Zealand. His research interests are in the areas of digital transformation, the social, organizational and cultural aspects of digital technologies, and qualitative research methods in information systems. He won the Best Paper award (with Heinz Klein) in *MIS Quarterly* in 1999 and the Best Paper Award (with Simon Chaniias and Thomas Hess) in *Journal of Strategic Information Systems* in 2019. Michael served as a senior editor of *MIS Quarterly* from 2001 to 2005 and as a senior editor of *Information Systems Research* from 2008 to 2010. He also served as President of the Association for Information Systems (AIS) in 2006 and 2007 and as Chair of International Federation of Information Processing Working Group 8.2 from 2006 to 2008. He currently serves as Editor-in-Chief of *European Journal of Information Systems*. Michael is a fellow and LEO Award winner of AIS.

**Stavros Polykarpou** is Lecturer (Assistant Professor) in Science, Innovation, Technology and Entrepreneurship at the University of Exeter Business School and Initiative for the Digital Economy (INDEX). His research lies at the intersection of technology, digital innovation, work and organizing. He examines the broader question of how to organize for emerging and algorithmic technologies along with associated societal and organizational implications for

creating value in the digital age. Methodologically, he employs ethnographic, in-depth qualitative methods to explore these topics. His research was awarded the 2020 Organizational Communications and Information Systems Division Best Paper Award, at the Academy of Management Conference (Vancouver, Canada; held virtually), for his ethnographic study of implementing 3D printing in healthcare. Stavros's research has been published in *Information and Organization* and conditionally accepted at *Information Systems Research*.

**M. N. Ravishankar** is Professor and Dean of the Management School, Queen's University. He works with a range of start-ups, multinational companies and public sector organizations globally. He has published peer-reviewed articles on the management of digital innovations, social entrepreneurship and global technology sourcing. His research has appeared in scholarly journals such as *Information Systems Research*, *Journal of World Business*, *Information Systems Journal*, *European Journal of Information Systems* and *Journal of Strategic Information Systems*.

**Sven-Volker Rehm** is an associate professor of Information Systems at EM Strasbourg, the business school of the University of Strasbourg. He held previous positions at WHU – Otto Beisheim School of Management. He holds a diploma in cybernetics and a doctorate in engineering sciences from the University of Stuttgart, along with a habilitation degree in business administration from WHU. His research sits at the intersection of communication, technology and organizing, with a focus on digital platforms and business ecosystems. He has published in journals such as *Information and Management*, *Information and Organization*, *Journal of the AIS* and *MIS Quarterly Executive*.

**Hani Safadi** is an associate professor at Terry College of Business, University of Georgia. He received his PhD from the Desautels Faculty of Management, McGill University. He is

interested in online communities, social media, healthcare information technology, mixed-methods research and the application of computational linguistics in studying qualitative data. His research is published in outlets such as *MIS Quarterly*, *Information Systems Research*, *Organization Science* and *Journal of Medical Internet Research*.

**Suprateek Sarker** is a Rolls-Royce Commonwealth Commerce professor (Information Technology) at the McIntire School of Commerce, University of Virginia. He currently teaches courses on data management and business intelligence, and global immersion in India and the United Arab Emirates. He is interested in applying different qualitative research approaches to study IS phenomena. He has published in many high-quality journals and has served on editorial boards of journals such as *MIS Quarterly*, *Information Systems Research*, *Journal of MIS*, *Information & Organization*, *Decision Sciences*, *IEEE Transactions on Engineering Management* and *Journal of the AIS*. He is a fellow of the AIS. He is also a former student of the first author of Chapter 2, Allen Lee.

**Stefan Schellhammer** is Tenured Lecturer and currently serves as Vice Dean for Teaching and Learning at the School of Business and Economics at the University of Münster, Germany. He received his PhD from the University of Münster in the subject area of Interorganizational Information Systems. His research focuses on studying the emergence of information infrastructures, as well as the implications of the changing nature of work to the well-being of individuals. His research has appeared in various books and conferences, and in *MIS Quarterly*.

**Boyka Simeonova** is Associate Professor of Innovation at the University Leicester School of Business. Boyka is an expert in innovation, digitalization, knowledge and strategic management, has published in leading journals in these topics, and is a co-editor of the book, *Strategic*

*Information Management: Theory and Practice*, 5th Edition (2020).

**Mari-Klara Stein** is a professor at the Department of Business Administration, TalTech, and an associate professor at the Department of Digitalization, Copenhagen Business School. Mari-Klara holds a doctoral degree from Bentley University (USA). Her research is focused on digital transformation of work. She has published her work in top management and IS journals (e.g., *MIS Quarterly*, *Journal of Management Studies*). Mari-Klara is the recipient of the European Research Paper of the Year award from CIONET, as well as the recipient of the Association for Information Systems (AIS) Early Career Award.

**Mark Thompson** is Professor of Digital Economy within the Initiative for the Digital Economy in Exeter (INDEX), part of Exeter Business School. His research interests include digital platforms and the public sector, and the affective dimension within organizational practice. Mark has undertaken technology policy development roles on a pro bono basis for a range of organizations, such as the UK National Audit Office, the Cabinet Office and the Scottish government, and is a board member of technology trade association TechUK. Mark combines his academic work with running London-based digital transformation organization Methods Group.

**Gongtai Wang** is Assistant Professor at the Smith School of Business, Queen's University. He earned his PhD from Warwick Business School, University of Warwick, and worked as a postdoctoral researcher at the UQ Business School, University of Queensland. His research focuses on the fundamental rethinking and strategic redesign of traditional products, services and business models with emerging digital technologies such as IoT, mixed reality, AI and blockchain. His research has been published in *MIS Quarterly*, the *Journal of Product Innovation Management* and proceedings of flagship Information Systems conferences.

**David Whitchurch** currently serves as the Business Analytics Manager at the Center for Analytics and Research in Transportation Safety at Louisiana State University, where he manages the development, updates and maintenance of data analytics applications, visualizations and reporting services solutions for a variety of highway safety stakeholders. He also works with clients as an analytics consultant for both US federal and state projects related to highway safety. He previously worked in the private sector in a variety of roles, including operations, human resource development, information technology and business application development. He received his MS Analytics from Louisiana State University and is currently pursuing a PhD in Information Systems and Decision Sciences.

**Edgar A. Whitley** is an associate professor in Information Systems in the Department of

Management at the London School of Economics and Political Science. Edgar has a BSc (Econ.) and PhD in Information Systems, both from the LSE. He is the co-editor of *Information Technology and People*, Senior Editor for the *Journal of Information Technology* and *AIS Transactions of Replication Research*. He has served as research co-chair for the European Conference on Information Systems and track co-chair for the International Conference on Information Systems, and was previously an associate editor for the *European Journal of Information Systems* and *MIS Quarterly*.

**Alex Wilson** is a reader at the Management School, Queen's University, has been Chartered Association of Business Schools Research Fellow, and has held visiting roles as Lim Kim San Research Fellow at Singapore Management University.

## Preface

### Rationale and Overview

Academic interest in the digitalization phenomenon is pervasive and growing. Programmes dealing with the technical aspects of the topic, such as in Data Analytics and Data Science, are now commonplace, being provided the world over by higher education institutions and major commercial companies and consultancies alike. Similarly, research output and scholarly publications abound, and have been growing for a decade or so (e.g., Waller and Fawcett, 2013; Chen et al., 2016). The management, societal and ethical implications of digitalization have as yet to be considered to the same degree, however, although researchers in the Information Systems, Organization Studies, Strategic Management and cognate fields are considering these topics and issues (e.g., Constantiou and Kallinikos, 2015; Erevelles et al., 2016; Galliers et al., 2017; Legner et al., 2017; Stein et al., 2019) – broader methodological considerations, especially concerning the use of qualitative methods in this domain, are largely missing given the heightened interest in (quantitative) data analytics (Ardito et al., 2019).

Given the rapid expansion in research on various aspects of digitalization, this handbook is set to be of considerable interest within these research communities, taking as it does a transdisciplinary perspective (Galliers, 2004). Importantly, and increasingly, as the issues – negative as well as positive (Newell and Marabelli, 2015) – and impacts (Günther et al., 2017) become apparent, questions of research *method*, as well as specific emergent topics, will increasingly arise. Given the need for a more critical approach to our research (cf. Howcroft and Trauth, 2005), the emphasis of this handbook is thus on research that applies

qualitative methods set alongside the more commonplace data-analytical, quantitative approaches.

### Handbook Structure

The book is divided into three parts that in turn provide a theoretical foundation, consider methodological approaches and implications and reflect on illustrative and emergent issues.

Part I deals with *Philosophical, Epistemological and Theoretical Considerations*, setting the scene for the remainder of the handbook. Many of the issues associated with digitalization are highlighted, particularly concerning the over-reliance on algorithmic decision-making and the consequent need for qualitative research. The various contributions provide a critique of ‘big data’ empiricism and introduce theoretical considerations that open up opportunities for the qualitative researcher by assisting in the identification of a range of limitations associated with data analytics, most importantly with regard to understanding what those data are actually demonstrating. Broader societal issues are also considered (e.g., Loebecke and Pinot, 2015).

As presaged above, Part II deals with *Methodological Considerations*. It provides examples of the various qualitative methods that can usefully be employed in researching various digitalization phenomena and issues. Included in this section are chapters concerning hermeneutics, the use of multi-methods, mixed-methods, text mining and visualization, revisiting the case study approach in the current era, ethnographic approaches and action research. It also includes a comparison of qualitative, quantitative and algorithmic research approaches.



Part III discusses a number of *Illustrative Examples and Emergent Issues*. While by no means comprehensive, the chapters in this section of the handbook delve into the subject matter by introducing a range of issues concerning, inter alia, practice, knowing, implementation, rich facets of digital trace data, data reliance and data sharing. Implications for theory and practice (cf. Smith, 2006; Mingers et al., 2013) and society (cf. Loebecke and Pinot, 2015) are also highlighted.

### Target Audiences

The pervasive nature of the digitalization phenomenon, and the transdisciplinary nature of the research that is and will (need to) be undertaken, mean that the handbook has been designed to be accessible to researchers in a variety of academies. While the handbook's contributors are, for the most part, from the international Information Systems (IS) field, the content is entirely relevant for these other communities. Thus, while our chapter authors have particular interests and expertise in qualitative research methods as applied to IS topics, those from cognate fields such as, inter alia, Organization Studies, Strategic Management, Marketing, Engineering Management, Finance, Operational Research and Operations Management, have strong and growing interests in the subject matter and the means by which the phenomena in which they are interested may be appropriately studied – mixed, pluralistic or complementary approaches being a key consideration (cf. Galliers et al., 1997; Mingers, 2001). Indeed, colleagues in other fields of study, such as Strategy, are also calling for research collaborations with the IS community (e.g., Whittington, 2017) – it is, therefore, not a 'one way street'.

Given that we are attempting to deal with these broader and emergent issues, researchers from these fields of study who take a more holistic, critical stance and who consider different epistemological and methodological approaches would doubtless find the handbook of particular interest. Doctoral and Master level students in Business Schools and Faculties of Social Science and Engineering may also find the book to be a key

reference source, not just those taking courses on research methods (cf. Galliers and Huang, 2012).

### Contributors

As noted above, we have invited contributions from experts in applying qualitative methods to digital phenomena. These contributions were originally sought in 2020 so that, in certain instances (as noted, for example, in Chapter 14), more recent publications of relevance to the subject matter have appeared in the literature. The contributors hail from universities located in Europe, North America and the Asian Pacific region. Each was invited not just for their undoubted expertise and considerable experience in researching and teaching in this domain, but also for their open, questioning, critical and flexible approaches to undertaking research on emerging digital phenomena. Brief biographical summaries can be found before this Preface.

### References

- Ardito, L., Scuotto, V., Del Giudice, M. and Messeni Petruzzelli, A. (2019). A bibliometric analysis of research on big data analytics for business and management. *Management Decision*, 57(8), 1993–2009.
- Chen, Y., Chen, H., Gorkhali, A., Lu, Y., Ma, Y. and Li, L. (2016). Big data analytics and big data science: A survey. *Journal of Management Analytics*, 3(1), 1–42.
- Constantiou, I. and Kallinikos, J. (2015). New games, new rules: Big data and the changing context of strategy. *Journal of Information Technology*, 30(1), 44–57.
- Erevelles, S., Fukawa, N. and Swayne, L. (2016). Big data consumer analytics and the transformation of marketing. *Journal of Business Research*, 68(2), 897–904.
- Galliers, R. D. (2004). Trans-disciplinary research in Information Systems. *International Journal of Information Management*, 24(1), 99–106.
- Galliers, R. D. and Huang, J. (2012). The teaching of qualitative research methods in Information Systems: An explorative study utilising learning

- theory. *European Journal of Information Systems*, 21(2), 119–134.
- Galliers, R. D., Jackson, M. C. and Mingers, J. (1997). Organization theory and systems thinking: The benefits of partnership. *Organization*, 4(2), 268–278.
- Galliers, R. D., Newell, S., Shanks, G. and Topi, H. (2017). Datification and its human, organizational and societal effects: The strategic opportunities and challenges of algorithmic decision-making. *Journal of Strategic Information Systems*, 26(3), 187–190.
- Günther, W. A., Rezazade Mehrizi, M. H., Huysman, M. and Feldberg F. (2017). Debating big data: A literature review on realizing value from big data. *Journal of Strategic Information Systems*, 26(3), 191–209.
- Howcroft, D. and Trauth, E. M. (eds). (2005). *Handbook of Critical Information Systems Research: Theory and Application*. Cheltenham, UK and Northampton, MA: Edward Elgar.
- Legner, C., Eymann, T., Hess, T., Matt, C., Böhm, T., Drews, P., Mädche, A., Urbach, N. and Ahlemann, F. (2017). Digitalization: Opportunity and challenge for the business and information systems engineering community. *Business & Information Systems Engineering*, 59(4), 301–308.
- Loebecke, C. and Pinot, A. (2015). Reflections on societal and business model transformation arising from digitization and big data analytics: A research agenda. *Journal of Strategic Information Systems*, 24(3), 149–157.
- Mingers, J. (2001). Combining IS research methods: Towards a pluralist methodology. *Information Systems Research*, 12(3), 240–259.
- Mingers, J., Mutch, A. and Willcocks, L. (2013). Critical realism in information systems research. *MIS Quarterly*, 37(3), 795–802.
- Newell, S. and Marabelli, M. (2015). Strategic opportunities (and challenges) of algorithmic decision-making: A call for action on the long-term societal effects of ‘datification’. *Journal of Strategic Information Systems*, 24(1), 3–14.
- Smith, M. L. (2006). Overcoming theory-practice inconsistencies: Critical realism and information systems research. *Information & Organization*, 16(3), 191–211.
- Stein, M. K., Wagner, E., Tierney, P., Newell, S. and Galliers, R. D. (2019). Datification and the pursuit of meaningfulness in work. *Journal of Management Studies*, 56(3), 685–717.
- Waller, M. A. and Fawcett, S. E. (2013). Data science, predictive analytics, and big data: A revolution that will transform supply chain design and management. *Journal of Business Logistics*, 34(2), 77–84.
- Whittington, R. (2017). Information systems strategy and strategy-as-practice: A joint agenda. *Journal of Strategic Information Systems*, 23(1), 87–91.