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Preface

Advancements in information and communication technologies have paved the way to new business models, markets, networks, services, and players in the financial services industry, developments now labelled as “FinTech.” FinanceCom workshops have been providing research leadership in this area well before the rise of the FinTech concept, helping academics and practitioners to understand, drive, and exploit the associated opportunities in the financial sector.

After very successful FinanceCom workshops in Sydney (twice), Regensburg, Montreal, Paris, Frankfurt (twice), and Barcelona, FinanceCom 2018 was held in Manchester (UK) for the first time. The workshop spans multiple disciplines related to the use of technology for financial services, including analytical, technical, services, economic, sociological and behavioral sciences, aiming to foster true cross-disciplinary work for addressing research questions grounded in real industrial needs. Indeed, one of the main goals of the workshop series has been to bridge the boundaries between “traditional” business disciplines (such as finance and economics) and “ICT-based” disciplines (such as software engineering and information systems), which demonstrate inertia in their focus on isolated parts of a much larger picture in which diverse aspects are intertwined in complex ways.

This inertia reduces the size of the FinanceCom community yet at the same time it amplifies the impact of the work presented at our specialized interdisciplinary workshop series. This year we received 18 submissions, of which we selected 11 high-quality papers to be presented at the workshop and to consequently be reworked based on the feedback and published in this volume together with an additional invited paper. The selection was instrumented by a rigorous review process implemented with the help of a Program Committee consisting of internationally renowned researchers and practitioners.

The first part of these proceedings contains five contributions in the area of financial innovation. The first paper is our invited paper “The MiFIR Trading Obligation: Impact on Trading Volume and Liquidity in Electronic Trading” by Gomber et al. It tests whether the migration of trading from the over-the-counter (OTC) markets to regulated trading venues and on platforms of systematic internalizers (Sis) has any effect on liquidity. The paper shows that liquidity on open limit-order book markets (OLOBM) increases as a result of the additional turnover coming from the OTC market. However, trading on SIs has an adverse effect on liquidity for OLOBM. The second paper, “Open Innovation Effectiveness in the Financial Services Sector,” by Piobbici et al. argues that an open innovation framework could be useful in analyzing innovation patterns that involve both financial and non-financial institutions. The paper suggests that market-based collaborations are significantly correlated with the performance in relation to innovation. Overall, the paper demonstrates that market-based collaborations are the most effective. Using a very large sample of 2469 observations and covering a 13-year period, the third paper, “Identification of Financial Statement Fraud in Greece by Using Computational Intelligence Techniques," by Chimonaki et al. reports that computational intelligence (CI) techniques can enhance the detection of financial fraud. The fourth paper, "What Sort of Asset? Bitcoin Analyzed," by Corbet et al. examines whether the introduction of futures contracts in bitcoin addresses the issues that have inhibited it from being classified as a currency. The paper shows that spot volatility has increased following the introduction of futures contracts, these contracts are ineffective as hedging instruments, and price discovery is driven by uninformed investors in the spot market. Overall, the paper demonstrates bitcoin is a speculative asset and the introduction of futures contracts has failed to make it a currency. The fifth paper, "Blockchained Sukuk-Financing," by Shaikh and Zaka examines the use of *sukuk* in Islamic finance as an alternative source of finance to conventional bonds. This source of finance can involve a number of parties, especially when sale, lease, and agency contract are combined. The paper presents a model for blockchained *sukuk*-issue, highlighting the significant design features that are unique for this source of finance. This approach should help the traceability of any asset transfers that will ultimately enhance *sukuk* credibility and their valuation. Further, a better contract infrastructure with blockchain security should also significantly reduce the execution time for transactions involving *sukuk*.

The second part of the proceedings contains four contributions in the area of market data analytics. The first paper in this section, "The Role of Customer Retention in Business Outcomes of Online Service Providers," by Assemi examines two competing theoretical models using archival data from a leading crowdsourcing marketplace. The findings show that a provider's profile information is significantly associated with the provider's business outcomes, while customer retention partially mediates this relationship. Furthermore, the results demonstrate the important role of new customers in achieving better business outcomes on crowdsourcing marketplaces. The second paper, "Using NSIA Framework to Evaluate Impact of Sentiment Datasets on Intraday Financial Market Measures: A Case Study," by Qudah and Rabhi examines the impact of news sentiment on the intraday cumulative average abnormal returns (CAAR) using cases from Australia, Canada, Germany, and the USA. The results show that in nine out of the 12 cases examined, the release of the sentiment news has a significant negative impact on the CAAR. The third paper, "Financial Data Visualization in 3D on Immersive Virtual Reality Displays," by Lugmayr et al. presents a design prototype for the 3D visualization of financial data relating to Australia's energy sector with a large-scale immersive virtual reality environment. The paper attempts to develop a proof-of-concept implementation referred to as "ElectrAus," a tool to visualize publicly available data from the Australian energy market. The primary aim of the proof-of concept implementation is to demonstrate new concepts in data visualization such as utilization of immersive environment and large screens for financial data visualization; creating an understandable visualization for the general public; and additional insights and analytics through 3D displays. The fourth paper, "Document Representation for Text Mining: Opportunities for Analytics in Finance," by Roeder and Palmer investigates the utilization of a distributed representation of words and documents referred to as "embeddings" for text analytics in finance. The results reveal a potential application of the document representation techniques for text analytics in the area of finance.

The third part of the proceedings contains three papers focusing on the use of semantic modelling in supporting financial trading. In their paper, “Semantic Model Based Framework for Regulatory Reporting Process Management,” Pilaka et al. describe how semantic modelling can help in extracting instances of regulatory reporting processes from event traces and help with compliance monitoring. The proposed framework is tested through applying it to event traces from the Australian Securities Exchange to extract instances of the “off market bid” regulatory process. The second paper, “Applying Ontology-Informed Lattice Reduction Using the Discrimination Power Index to Financial Domain,” by Quboa et al. describes the use of semantically encoded knowledge about asset allocation to support the automatic clustering of instances sampled from the domain and their tagging with semantic information. The final paper in this section by Behnaz et al., “A Statistical Learning Ontology for Managing Analytics Knowledge,” proposes an ontology development process tuned to developing statistical learning ontologies that can support analytics. Two case studies ground the research to the domains of commodity pricing and digital marketing.

Special thanks go to Alliance Family Foundation and Alliance Manchester Business School Strategic Investment Fund, which supported this event financially through the Alliance MBS Big Data Forum. We are also grateful to Fethi Rabhi, who has guided us all the way in getting this workshop and proceedings organized from start to finish. We are grateful to our team of reviewers and Program Committee members, who worked very hard with the authors to ensure the quality of the papers included in this volume, and to Ralf Gerstner and Christine Reiss from Springer for their excellent support in producing this proceedings volume.

June 2018

Nikolay Mehandjiev
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Organization

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