




Lecture Notes in Business Information Processing

467


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Editors

Enterprise Applications, Markets and Services in the Finance Industry


11th International Workshop, FinanceCom 2022
Twente, The Netherlands, August 23–24, 2022
Revised Selected Papers

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Preface

Now in its eleventh consecutive year, FinanceCom 2022 was held for the first time in the Netherlands, hosted by the Section Industrial Engineering and Business Information Systems of the Department of High-Tech Business and Entrepreneurship at the University of Twente, August 23-24, 2022. This came after very successful FinanceCom workshops in Sydney (twice), Regensburg, Manchester (UK), Montreal, Paris, Frankfurt (twice), Barcelona, and online.

This event has become truly international, with participants and speakers from thirteen countries, including the USA, Kenya, and Australia. The University of Twente hosted 50 participants from the Netherlands and the rest of Europe, in addition to 30 distinguished academic and business speakers. The conference brought together policymakers, national and European academics, and technology and financial services industry participants, and served as a forum for interdisciplinary discussion and the exchange of ideas regarding the adoption of innovative technologies in the financial services industry.

This year, the conference was also supported by the European Union under the COST (Cooperation in Science and Technology) scheme, the longest-running European intergovernmental framework for cooperation in science and technology. The COST Action CA19130 Fintech and Artificial Intelligence is a research network connecting 270+ researchers from 49 countries globally.

Themes and Key Topics of FinanceCom 2022

Information technology advancements not only alter the manner in which we communicate and process data, but also pave the way for new business models, markets, networks, services, and players in the financial services industry. Some of these developments include electronic trading, data analytics, and fintech services. Since its inception, the FinanceCom conference series has provided significant academic research in this area at the intersection of information systems and finance, well before the emergence of the fintech concept. The research presented at FinanceCom conferences aims to assist academics and practitioners in comprehending, driving, and capitalizing on the opportunities presented by these information technology-driven financial sector developments.

The conference featured four main themes: Networks and Business Models, Financial Markets, IT and Implementations, and New Emerging Digital and Virtual Financial Markets. The first theme, Networks and Business Models, focused on the ways that financial institutions are connected to each other and how these connections affect their business operations. The second theme, Financial Markets, explored the latest trends and developments in financial markets, including the rise of fintech and the impact of digital technologies on financial services. The third theme, IT and Implementations, examined the role of information technology in the finance industry and the challenges and opportunities of implementing new technologies. The fourth theme, New Emerging

Digital and Virtual Financial Markets, looked at the ways that digital and virtual financial markets are changing the way that financial services are delivered.

The topics covered some of the latest advances and techniques from academia and the financial industry: blockchain, financial sentiment analysis, stress tests, stock price predictions, fintech loans, Internet measurements for finance, an e-invoicing ecosystem, mobile payments, financial intermediary misconduct, machine learning, interest rate regulations, AI ethics, systemic risks, sustainability goals, Big Tech firms, generative adversarial networks, explainable artificial intelligence, the Digital Art Index, AI-enabled decision systems, an effective analytics organisation, digital payments, corporate regulatory exposure, and a data analytics framework.

FinanceCom 2022 resulted in fruitful discussions about the presented papers and an exchange of ideas with participants joining our conference from Australia, Europe, and the United States, physically at the University of Twente.

Conference Proceedings

We received 25 submissions for this first post-Covid FinanceCom workshop, from which we chose eight high-quality papers to be published in this volume after revision. The selection was based on a rigorous review process carried out with the assistance of a program committee of internationally renowned researchers in the field, who also significantly contributed to the improvement of the selected papers through comments and suggestions.

The first paper, “A data analytics architecture for the exploratory analysis of high-frequency market data,” authors Siu Lung Ng and Fethi Rabhi, proposes a design for an architecture that aims to reduce the technical challenges associated with analyzing high-frequency market data. The availability of high-frequency data has become increasingly important in fields such as econometrics, finance, and accounting, but the analysis of such data requires a combination of domain knowledge and IT expertise. The proposed architecture integrates data acquisition, analytics services, and visualization to make it easier for researchers and domain experts to perform ad hoc analysis of high-frequency data.

The second paper, “Give Them a Second Chance? Prediction of Recurrent Financial Intermediary Misconduct” by Jens Lausen and Benjamin Clapham presents a valuable contribution to the literature on financial misconduct and automated fraud detection. The authors develop predictive models to identify brokers that commit misconduct multiple times. The paper is based on a comprehensive dataset and is valuable for investors and regulators alike, as it can assist in identifying and preventing recurrent financial intermediary misconduct.

The third paper, “A Framework to Measure Corporate Regulatory Exposure” by Jascha-Alexander Koch and Peter Gomber presents a useful approach for companies to determine the relevance of regulations in an automated manner. The authors argue that the growing and changing corpus of regulations presents a challenge for companies, as it is difficult for them to identify which regulations apply to their business activities. To address this problem, the authors propose a decision support framework that uses natural language processing techniques to identify relevant regulations. This framework

is applied to the US Code of Federal Regulations, and the results are discussed in the paper.

The fourth paper, “Realising Value from AI-Enabled Decision Systems with Fair Outcomes: An Exploratory Case Study” by Franziska Koefer, Ivo Lemken, and Jan Pauls is an important contribution to the growing body of literature on the ethics and fairness of AI. The authors argue that despite the increasing consensus on principles of fairness in AI, there is a gap between the potential and actual realized value of AI due to a lack of practical guidance on how to apply these principles in real-world settings. To address this gap, the authors propose a framework for organizations to consider throughout the AI product life cycle, from design and development to deployment and maintenance, in order to ensure fair outcomes. The framework is based on a case study of a social impact microfinance organization that uses AI-enabled credit scoring to support the screening process for financially marginalized entrepreneurs.

The fifth paper, “The effect of changes in interest rate regulation on the financial performance of banks in Kenya” by Jane Ngaruiya, Pat Obi and David Mathuva aims to assess the impact of changes in interest rate regulation on the financial performance of banks in Kenya. Interest rate is an important macroeconomic variable that is directly related to economic growth. The imposition of interest rate controls has been a common practice in many countries, including Kenya, in the aftermath of the Global Financial Crisis (GFC) of 2008-2009. However, the effects of such regulations on the economy are not well understood, and previous studies on the subject have been relatively sparse. The authors conclude that their study provides evidence in favour of the imposition of interest rate controls to regulate lending rates charged by commercial banks.

The sixth paper, “Towards an API marketplace for an e-invoicing ecosystem” by Chinmay Manchanda, Walayat Hussain, Latif Rabhi, and Fethi Rabhi presents a solution to the challenges faced by e-invoicing solution providers. E-invoicing has become increasingly popular as a means of streamlining the billing process and reducing the risk of errors and fraud. However, the adoption of e-invoicing is also creating new challenges, such as compliance with regulations, cross-border issues, and the need to support multiple standards and formats. The authors’ proposed solution shows potential for addressing the complexities of e-invoicing regulations and standards, and their preliminary results indicate the feasibility of the approach.

The seventh paper, “Role of culture in customer acceptance of neobanks” by Koen Meijer, Abhishta Abhishta and Reinoud Joosten analyzes the role of Hofstede’s cultural dimensions in the acceptance of Neobanks. Recent years have seen a surge in the number of fintechs including fully online banks, referred to as Neobanks. However, acceptance of these banks varies among different countries and continents. This paper includes culture (as Hofstede’s cultural dimensions) as part of the technology acceptance model (TAM) to investigate its role in the acceptance of neobanks. Based on a survey of Neobank users, this paper finds that the original constructs of TAM and ‘Trust’ have a positive impact on the acceptance of Neobanks.

The eighth paper, “From Perceived Mobility to the Intention to Use Mobile Payments: The Role of Positive and Negative Determinants” by Petar Dzelalija and Ana Ivanisevic Hernaus presents a valuable contribution to the understanding of the factors that drive consumer adoption of mobile payments. The paper departs from the traditional TAM

and TRAM frameworks and incorporates additional determinants such as perceived mobility and trust. The authors use a sample of 218 financially educated individuals to examine the predictive role of mobile payment antecedents and find that mobile payment knowledge mediates the relationship between perceived mobility and intention to use mobile payments. The paper also highlights the moderating roles of perceived compatibility and perceived risk.

The authors' ability to validate their comprehensive research model and extend the demographic and regional scope of the related research adds to the value of the paper. Overall, this paper provides insights into the underlying mechanisms and boundary conditions driving consumers' decision to use mobile payments for everyday transactions. Policymakers and businesses seeking to promote the adoption of mobile payment technologies can benefit from the implications of the study's findings.

Overall, the conference was a valuable forum for discussing the latest developments in the finance industry and for sharing new ideas and research results. These conference proceedings provide a valuable resource for academics and practitioners alike, and we hope that they will be a valuable contribution to the field.

December 2022

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