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Introductions

Special Issue: Financial Information Systems and the Fintech Revolution

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Erratum

This Special Issue of the Journal of Management Information Systems was developed to build new foundations for research in the interdisciplinary space of the Fintech Revolution. Today, it seems that all areas of financial services are touched by the technological forces that have led to new entrepreneurship, unbridled innovation, and significant growth in interest by venture capital firms to become involved. This time around though, it is not the dot-coms or e-commerce. Instead, it is the technological transformation of banking, securities trading, and other financial services as we have known them in the past: new visions of services and customer centricity, with bright prospects for controlling costs and supporting profitability. There are new capabilities that reflect digital convergence and disintermediation, new forms of money such as

bitcoin and ethereum, and the extension of financial services to previously unbanked consumers and markets.

In October 2017, Venture Scanner (www.venturescanner.com) identified 2,307 new companies in the “Financial Technology” category they track, among which 1,490 in 16 different categories across 64 different countries have raised US$75.4 billion in venture capital funding. Some of the focal categories that are represented include: lending, microfinance and crowdfunding, retail and institutional investments, personal finance, smart contract and distributed ledger innovations, and payments and remittances. Other niche areas are represented as well: equity finance, banking infrastructure, consumer banking, blockchain project platforms, open application programming interfaces (APIs), and financial research.

Simultaneously, many other practices that are unique to financial services are undergoing fundamental changes. They include: growth toward mobile payments at scale; diminution in the use of cash in different nations and world regions; changes in how international trade is financed based on new ways to achieve stakeholder informedness in supply chain management through information technology (IT); and the use of transaction filters to comply with political sanctions on the movement of money in the global financial system. Also included are the growth of new forms of algorithmic and high-frequency trading; cross-border equity trading, clearing, and settlement; and global portfolio management made possible by regional trading networks. There are also emerging technologies that are creating new opportunities for innovative applications: blockchain-based ledgers between trading counterparties; new encoding capabilities for transaction tracing; and data mining, machine learning, and artificial intelligence for pattern recognition and knowledge discovery.

Given these fundamental changes in the financial services industry and our motivation to explore the latest research that represents some of these areas in the Fintech Revolution, we reached out to researchers with various backgrounds and interests in the financial technology arena, to submit articles for this Special Issue of the Journal of Management Information Systems (JMIS). We received more than 60 submissions in total, of which 75 percent dealt with issues that were well-connected (tangential sounds weak, and implies ˜50% accept rate of the 15 non-tangential) [Tilda symbol] to the phenomena and research innovations that we hoped to bring to JMIS readers’ attention. In the end, we accepted six papers from the original submissions that met our criteria

for Fintech Revolution relevance, high-quality scholarship, and meaningful results to build foundations in this emerging area of research.

The Special Issue opens with its lead article, which asks: “How Does Social Media Impact Bitcoin Value? A Test of the Silent Majority Hypothesis,” by Feng Mai, Zhe Shan, Qing Bai, Xin (Shane) Wang, and Roger H.L. Chiang. The emergence of bitcoin has brought along with it a firestorm of business issues, skepticism about whether there is a “bitcoin bubble” or new innovation-associated market adjustments, and whether bitcoin truly functions as a form of digital money, or instead, it works more like equities—only without any underlying assets on which to be able to assert that there is some intrinsic value present. We have seen the US$480 million hacking-driven demise of the Mt. Gox bitcoin exchange in Japan, along with the on-again-off-again willingness of China to permit bitcoin exchanges to operate within its borders, and the European Parliament’s reluctance to allow any totally anonymous cryptocurrencies to be exchanged within the borders of its 28 nation states.

The authors assess what drives the value of bitcoin, which is many times more volatile than most stock prices and foreign exchange rate pairs. They specify a number of hypotheses, and through a blend of machine-based methods and explanatory econometric analysis, assess the extent to which the Twitter sentiments of the larger number of active posters—their vocal majority—or the smaller number of occasional posters—their silent majority—typically influence bitcoin prices to a greater extent. The methods involve sentiment textual analytics and vector error correction modeling estimation. They also assess whether blog forum posts with more extended opinions expressed are more influential than very brief Twitter sentiments. They report that social media sentiment, especially the sentiment of the silent majority—the Silent Majority Hypothesis—seems to affect bitcoin prices to a greater extent than that of the vocal minority and that blog posts are more influential than tweets via Twitter.

“Cheap talk” is communication between economic agents that can be delivered and received between them without cost. Typically, such communication does not affect the economic outcome of their interactions. However, economist Joseph Farrell ([1], p. 186; emphasis added), in an article called “Talk Is Cheap” in the American Economic Review, wrote that “the standard theory of signaling seems to suggest that cheap talk should be uninformative, but this is misleading: cheap talk can sometimes convey information and affect real (payoff-relevant) actions.”

Related to this background theory, the second article in the issue is by Jennifer J. Xu and Michael Chau, who explore “Cheap Talk? The Impact of Lender-Borrower Communication on Peer-to-Peer Lending Outcomes.” The authors observe, through empirical analysis of peer-to-peer (P2P) lending platforms, that cheap talk may lead to rational herding behavior among P2P loan funders. They rely on a rich data set that permits two-way communication between borrowers and investors to see the extent to which richer social communication improves funding for borrowers and supports better loan payback rates. They report that borrower responses do more to enhance their funding success than lender comments and questions, and that such communication is more important when borrowers have weaker credit ratings. Lenders also seem to influence one another based on whether they share positive or negative comments, and the richness of their communication. They further report that lending performance in payback rate terms is not able to be predicted based on how much borrowers and lenders engage in direct social interaction on the P2P lending platform.

Yang Jiang, Yi-Chun (Chad) Ho, Xiangbin Yan, and Yong Tan contributed the third article, entitled “Investor Platform Choice: Herding, Platform Attributes, and Regulations.” They report on an empirical study they conducted on the extent to which P2P lending exhibits patterns that can be explained by rational herding theory. These involve the effects of observational learning, and the various kinds of information transmissions that go to market participants. This work also considers the effects of social interactions at the platform level of analysis; in particular, to gauge the extent to which platform investors tend to follow the lending actions of others who offered loans before them. The authors analyzed a unique information on 127 P2P lending platforms via a large Chinese-language market aggregator’s website. In addition to numerous explanatory and control variables, the authors specified two measures of herding behavior: the cumulative number of investors who lend funds during a week, and the average cumulative amount per investor during the same week. The authors found evidence that herding occurs in P2P lending at the platform level, as it does at the loan-listing level, as other authors have shown. They employed a hierarchal regression model, and also showed that the previous lending behavior of other prior investors does indeed influence their choice of platform for subsequent loans. In addition, their results further point to the importance of government regulations as a diminishing moderator of P2P loan herding, and that a larger market share for a platform and a longer time since its implementation tend to heighten the extent to which investor herding on loan-making is observed.

The fourth article is “The Role of Provision Points in Online Crowdfunding,” authored by Gordon Burtch, Yili Hong, and De Liu. An important theoretical foundation for studies on the new fintech issues is similar to what has been relevant for financial markets, auction operations, and the innovations associated with business-to-consumer (B2C) and business-to-business (B2B) e-commerce in the past: market mechanism design theory. This research related to crowdfunding on the Internet studies the provision point mechanism. The authors refer to this as an “all-or-nothing” fundraising scheme, although overfunding is often possible with these mechanisms.

The theoretical relevance to crowdfunding platforms is threefold. First, when there is a predetermined fixed target for the capital an entrepreneur raises, this takes away the impetus for investors to gauge the likely return they will receive on the basis of how much funding interest there is in the market as a signal for likely success. Second, when the funds raised fall short of what an entrepreneur has requested, all of the investors are protected because their funds will not be provided to the entrepreneur, which protects them from loss. Third, there also is a positive contribution externality that incentivizes them to more generously contribute, since they are protected as a group. The authors employ data from a crowdfunding platform that makes the inclusion of a provision point a design choice. Thus, it was possible for them to extract empirical evidence to show the effects of this mechanism design feature at different stages in a crowdfunding campaign. The authors report that a provision point limitation, in the presence of greater prior capital accumulation, was not associated with greater follow-on investments. This research suggests that the inclusion of a provision point in a crowdfunding campaign can mitigate undesirable rational herding behavior or informational cascades that diminish the quality of the market.

The fifth article is “The Innovation Mechanisms of Fintech Start-Ups: Insights from SWIFT’s Innotribe Competition.” The authors, Daniel Gozman, Jonathan Liebenau, and Jonathan Mangan, won a funded research competition run by SWIFT Institute in London, to study the business models of 402 fintech start-ups in Europe, Asia, Africa, and North America, based on their access to a global database of entrepreneurial entrants. The authors sought to study the characteristics that the start-up firms exhibited, in order to determine the key drivers of firms, their markets, and innovation activities that bring them longer-term success, and a sustainable and profitable business model.

For this research on entrepreneurial firms, the authors applied technology ecosystem theory, and its key elements of underlying technologies and components, fintech

services and products, and enabling business infrastructures, to create a foundation for their analysis of firm capabilities. They employed cluster analysis to match start-ups to different clusters defined by their characteristic business activities. They also used case study methods to analyze the Innotribe firms' business models, in terms of a number observable mechanisms that are present in their business models. They include: automation of processes and hybridization of business products and services; financialization of various aspects of their operating capabilities for their clients; disintermediation or reintermediation actions related to the market in which they compete, creating new levels of competition; enhancement of client access to core processes and services involving financial services; and finally hybridization of multiple traditional financial services that are brought together so that their synergy results in new and innovative capabilities. The authors report on a number of minicases of fintech start-ups that have demonstrated how to leverage new competitive and cooperative strategies, which enabled the firms to acquire venture capital funding and niche opportunities in a highly complex global marketplace for fintech innovation. They further note the generalizability of their approach and findings to other emerging component, service, and business infrastructure innovations in the insurtech (insurance technology) and regtech (regulatory technology) ecosystems.

The sixth article of this Special Issue was contributed by Erol Kazan, Chee-Wee Tan, Eric T.K. Lim, Carsten Sørensen, and Jan Damsgaard, who have done a study on "Disentangling Digital Platform Competition: The Case of UK Mobile Payment Platforms." Their research presents a new taxonomy of mobile payment platforms, that leverages the authors' insights about value creation and value delivery architectures—new constructs that characterize the capabilities of mobile payment technology platforms. The authors' central argument is that competitive advantage is created and sustained through the architectural configurations a fintech firm is able to implement for its marketplace. The authors examine strategic industry groups of firms in industrial economies, as well as those that exhibit network links of different kinds within them.

They employ an interpretive multiple case study approach that blends exploratory and explanatory approaches, as well as theory and interviewing methods, to produce insights on key how-and-why questions about mobile payment firm success in the complex mobile payment ecosystem of the UK. The authors' analysis work enables them to characterize three different modes of access to mobile payment platforms: the direct access, indirect access, and open access approaches. They further explain the presence of three different platform competition strategies: the germination,

orchestration, and transformation strategies for platform architecture positioning differentiation. The authors characterize their main contribution of new technology strategy and management knowledge as identifying how mobile payment technology platforms appropriate value in the marketplace. For companies with single-firm integrative approaches that are able to exert control on their own value-creation architectures, their mobile payment platform architectures are able to appropriate value by shielding their business activities from potential third-party competitors. In contrast, those that have more integratable, interorganizational mobile payment platform architectures tend to rely on extracting value from federated business networks, with reciprocal promotion and synergistic innovation.

This Special Issue's seventh and final article, by the guest editors, Peter Gomber, Robert J. Kauffman, Chris Parker, and Bruce W. Weber, offers new ideas on the core issues and potential direction of fintech research across multiple academic disciplines, and in partnership with industry organizations. Their article is entitled "On the Fintech Revolution: Interpreting the Forces of Innovation, Disruption, and Transformation in Financial Services.", presents a framework for assessing the innovation landscape that categorizes fintech initiatives into a Market-and-Competition vs. Customer Experience matrix.

Additional information

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