

2021

FinTech in Information Systems Research: A 2010-2020 Review of the AIS Senior Scholars' Basket

Peter Haried

University of Wisconsin - La Crosse, pharied@uwlax.edu

Ye Han

University of Wisconsin - La Crosse, yhan@uwlax.edu

David Annino

University of Wisconsin - La Crosse, dannino@uwlax.edu

Follow this and additional works at: <https://scholarworks.lib.csusb.edu/jitim>



Part of the [Management Information Systems Commons](#)

Recommended Citation

Haried, Peter; Han, Ye; and Annino, David (2021) "FinTech in Information Systems Research: A 2010-2020 Review of the AIS Senior Scholars' Basket," *Journal of International Technology and Information Management*. Vol. 30: Iss. 2, Article 1.

DOI: <https://doi.org/10.58729/1941-6679.1489>

Available at: <https://scholarworks.lib.csusb.edu/jitim/vol30/iss2/1>

This Article is brought to you for free and open access by CSUSB ScholarWorks. It has been accepted for inclusion in *Journal of International Technology and Information Management* by an authorized editor of CSUSB ScholarWorks. For more information, please contact scholarworks@csusb.edu.

FinTech in Information Systems Research: A 2010-2020 Review of the AIS Senior Scholars' Basket

Peter Haried

(University of Wisconsin - La Crosse)

Ye Han

(University of Wisconsin - La Crosse)

David Annino

(University of Wisconsin - La Crosse)

ABSTRACT

Financial technology (FinTech) has emerged as a significant innovative and transformative force where the primary drivers are disruptive information systems technologies. As a result of the amplified role of FinTech, this article presents a review of FinTech research published in the top Information Systems (IS) journals over the 2010-2020 time period to assess the FinTech contributions made during the 10-year period by IS researchers. There is a unique opportunity for FinTech researchers to learn from and extend the work that has already been published in the highly correlated IS field. Our analysis reviewed 74 articles on a variety of FinTech topics published in the "Association for Information Systems Senior Scholars' Basket of the top eight ranked IS academic journals. Across the selected IS publications, our findings compared research methodologies, topic areas investigated, and research trends. Our findings demonstrate that several methodologies are understudied or absent and a variety of FinTech topic areas require further exploration.

Keywords:

Financial Technology, FinTech, Meta-Analysis, Senior Scholars' Basket

INTRODUCTION

Over the last decade, information technology innovations have rapidly transformed and disrupted the financial industry. Financial technology startup firms (including software developers, hardware manufacturers, data analytics firms, mobile technology, and e-commerce platforms) have led the transformation to the innovative technology-based solutions for banking, insurance and asset management problems that were traditionally handled by intermediaries such as banks and other financial institutions. “FinTech” is an abbreviation given to the group of financial technologies that broadly influence the way financial payment, funding, lending, investing, trading, financial services, and currencies are conducted (Hendershott, Zhang, Zhao & Zheng, 2018). Additionally, FinTech includes the organizations that combine innovative business models and technology to enable, enhance and disrupt financial services (Ernst & Young, 2019). The term FinTech is often used to refer to use of the financial industry’s use of emergent technology to solve problems often relating to customer experience and insight in financial services (Chemmanur, Imerman, Rajaiya, & Yu, 2020). Often these FinTech startups and technologies are resulting in a disintermediation force that is automating financial sector processes, from the routine manual tasks to nonroutine tasks requiring cognitive decision making (Das, 2019).

The application and adoption of FinTech is not limited to only the startup firms, incumbent firms are also increasing their use of FinTech to improve operations. As a result, FinTech is causing significant disruptions across the financial industry. Given that FinTech is an application of technology, information systems (IS) researchers are uniquely positioned to assess how FinTech has been and is currently being applied to innovate, transform and disrupt financial processes and information transformation. Consequently, this paper will treat FinTech as a sub-topic area of the IS field where unique opportunities exist for FinTech researchers and practitioners to learn and apply concepts previously studied in the IS field to FinTech. Thus, our goal is to review the FinTech contributions made in the top ranked IS literature over the 2010-2020 time period.

The field of IS by definition is an applied discipline, that by design, applies information technology to real world business-oriented problems. The IS field seeks to investigate how technology impacts both effectiveness and efficiency. FinTech meets this definition as an applied technology resulting in a business impact to the financial environment. The term FinTech describes the use of new technology that seeks to improve and automate the delivery and use of financial services. Fintech has been defined as a technological change that disrupts the following three broad areas of finance: (1) raising capital, (2) allocating capital, and (3) transferring capital (Das, 2019).

Earlier research has recognized the importance of information technology shaping the future direction of finance and financial markets (Lapavitsas, 2011). Often, FinTech applications range from simple automation to complex decision making. Examples of emerging FinTech technologies include blockchain and distributed ledger technology, biometrics, quantum computing, cloud computing, open-source computing, big data analytics, machine learning and artificial intelligence, Internet-of-Things (IoT) technology, and cybersecurity among others (Imerman & Fabozzi, 2020). IS researchers are well-equipped to study and have previously studied many of these technological innovations, transformations and disruptions.

Although, FinTech is a relatively new term, financial organizations have experienced technology disruptions in the past. For example, Arner, Barberis and Buckley (2016) reviewed 150 years of FinTech and traced FinTech through three major eras: FinTech 1.0 (1866-1967), FinTech 2.0 (1967-2008), and FinTech 3.0 (2008-Present). Each era was defined through technological innovations and disruptions. Historically, the growth of the financial industry has been accompanied by unprecedented expansions in the use of information technology (Lagoarde-Segot & Currie, 2018). It is clear that financial firms have historically embraced the disruptive nature brought forth through technology to address financial business-oriented problems. As a result, it is necessary that the academic community be involved with studying this revolution and investigate the impact on financial intermediation to make contributions to the new era in the financial industry (Cai, 2018). Thus, there is an opportunity to leverage and review existing IS research to further understand FinTech. We hope to provide an overview and framework to influence the direction of FinTech research that can leverage what has been published in the leading IS journals and further identify areas for IS researchers to contribute to FinTech research.

This paper is motivated via two related areas. First, with the increased recognition and importance assigned to FinTech an opportunity exists to review IS researcher findings and share those outcomes with FinTech academics and professionals. Second, in order for FinTech research to advance, there is a need for researchers to perform meta-analysis reviews to periodically review methods used by researchers across disciplines and provide insights to which methods have been and should be utilized in a given research field (Scandura & Williams, 2000). Meta-analysis has served as a valuable tool to help identify where researchers have been and where researchers are headed (Palvia, Kakhki, Ghoshal, Uppala, & Wang, 2015). The growing interest surrounding FinTech in recent years added to our interest in investigating and reviewing the FinTech contributions in the top IS journals. IS academics have an opportunity to contribute to the FinTech debates by examining the mediating role of information technology between markets, regulators, firms and investors (Currie & Lagoarde-Segot, 2017).

As FinTech becomes more and more commonplace, there is a meaningful need for FinTech researchers to learn from past research completed by IS academics, assess the present state of FinTech research and establish a framework to guide future research directions. Thus, the goal of this study is to provide a lens of examination for both IS and FinTech researchers to review what has been published in the top-ranked IS journals and uncover future research opportunities.

Before performing the meta-analysis, we need to highlight the importance of FinTech, not only for academics, but also the ultimate significant impact to society as a whole. Interest in Fintech has been amplified due to the attention given by regulators, industry participants, consumers and academics due to the rapid disruption to traditional financial services (Cai, 2018). Investments in FinTech are gaining attention and adoption has been increasing exponentially. CB Insights reports that venture capital backed FinTech companies were worth a combined \$248 Billion in the first quarter of 2020 (CB Insights, 2020). The Ernst & Young FinTech Adoption Index reports that the global adoption of FinTech services has moved steadily upward. In 2015, 16% of global consumers were using FinTech, 33% in 2017, and 64% in 2019 were using FinTech (Ernst & Young, 2019). Emerging markets are seen leading the way, where adoption rates in China and India are 87%. Additionally, small and medium-size enterprises (SMEs) are reported at a 25% average FinTech adoption rate (Ernst & Young, 2019). Clearly, FinTech is growing and globalizing its consumer adoption. From an academic perspective, there is recent evidence of increased interest and the significance of FinTech through the proliferation of FinTech tracks at conferences, special interest groups and calls for special issues in top-tier IS journals (Currie & Lagoarde-Segot, 2017; Hendershott et al., 2018). One call by Currie and Lagoarde-Segot (2017) encouraged IS researchers to investigate technology as a correlative, and even a causal mechanism in global financial events and outcomes. The article at hand seeks to meet this call by systematically reviewing and analyzing the IS academic literature on FinTech. In our review of the top ranked IS journals, we compiled a comprehensive review of 74 publications addressing FinTech during the 2010-2020 time period. The article seeks to answer FinTech related questions addressed in articles published in the AIS Senior Scholars' Basket of the eight top-ranked IS journals: "What FinTech topics are addressed?" "What research methods are commonly applied?" and "What are the FinTech research trends and opportunities". As a result, this paper aims to review the IS literature with the goal of identifying significant FinTech knowledge gaps and motivate IS researchers to close the gaps through a proposed future research agenda. The remainder of the paper is organized as follows. The next section discusses our methods for collecting and analyzing FinTech articles.

Next, we discuss the results describing the research methodologies applied, topics addressed and FinTech research trends. We conclude with discussions on implications and future research directions.

METHOD

As previously mentioned, the goal of this article is to review the FinTech research contributions published in the top ranked IS publications over the 2010-2020 time period. Following earlier meta-analysis research, we adopted a three-step process for journal selection, article classification and data synthesis to complete our FinTech meta-analysis (Cumbie, Jourdan, Peachy, Dugo, & Craighead, 2005; Haried, Claybaugh & Dai, 2019). Our approach to examine the FinTech research published in top-ranked IS journals was to first review FinTech related IS literature. Specifically, our goal was to (1) review the number and distribution of FinTech articles published in the top-ranked IS journals, (2) identify methodologies applied, and (3) highlight the FinTech research topics addressed in IS research articles. In order to limit our review to the most influential IS articles, the “AIS Senior Scholars’ Basket of eight journals (See Table 1) was selected (AISnet.org). The AIS Senior Scholars list is recognized by IS researchers to comprise the top eight journals in the IS field and is well known for publishing high quality respected research contributions. The AIS Senior Scholars list is limited to journals specific to the “IS field” and omits both multidisciplinary and specialty areas. The authors recognize that FinTech often has multi-disciplinary components, but the focused journal list allows for the review of research conducted only from an IS researcher perspective. After the journals were identified, the researchers reviewed and collected the pool of FinTech articles published during the 2010-2020 time period. The 2010-2020 time was deemed appropriate, since this decade is referred to the “FinTech Revolution”, with over \$165.5 billion poured into FinTech companies (Imerman & Fabozzi, 2020). Papers were retrieved using the ABI/INFORM database and associated journal websites when necessary. The search terms applied were identified through a review of the keywords listed across FinTech published papers. Within these platforms, searches were performed on the title, abstract and keywords for the following terms: “FinTech”, “blockchain”, “crowdfunding”, “bitcoin”, “robo-advisors”, “digital payments”, “crypto-currency”, “stock market” and “high frequency trading” in order to cover the range of potential FinTech related topics.

Table 1. Senior Scholars Basket of Eight

Journal Title in Alphabetical Order	Acronym
European Journal of Information Systems	EJIS
Information Systems Journal	ISJ
Information Systems Research	ISR
Journal of Association of Information Systems	JAIS
Journal of Information Technology	JIT
Journal of Management Information Systems	JMIS
Journal of Strategic Information Systems	JSIS
MIS Quarterly	MISQ

After article collection, each study was categorized based on research strategy (Table 2). The selected research strategy classifications are documented as the most common approaches applied in the business discipline (Scandura & Williams, 2000). It should be noted that all research strategies are associated with certain tradeoffs (Table 3) that researchers make when conducting a study that limit the conclusions that can be drawn from the selected research strategy (Scandura & Williams, 2000). In order to limit the impact of these tradeoffs, the authors ensured that the categorization process was normalized through a pilot test on the unused articles to discuss the results and refine the definitions and classification method applied (Neuendorf, 2002).

Table 2. Research Strategy Categories (Source: Scandura & Williams, 2000)

Research Strategy	Description
Formal Theory/ Literature Reviews	Summarization of the literature in an area of research in order to conceptualize models for empirical testing.
Sample Survey	The investigator tries to neutralize context by asking for behaviors that are unrelated to the context in which they are elicited.
Laboratory Experiment	Participants are brought into an artificial setting, usually one that will not significantly impact the results.
Experimental Simulation	A situation contrived by a researcher in which there is an attempt to retain some realism of context through use of simulated situations.
Field Study: Primary Data	Investigates behavior in its natural setting. Involves collection of data by researchers.
Field Study: Secondary Data	Involves studies that use secondary data (data collected by a person, agency, or organization other than the researchers).
Field Experiment	Collecting data in field setting but manipulating behavior variables.
Judgment Task	Participants judge or rate behaviors. Sampling is systematic vs. representative, and the setting is contrived.
Computer Simulation	Involves artificial data creation or simulation of a process.

In order to capture and categorize the FinTech topic areas, all articles were classified following the FinTech ecosystem developed by Imerman and Fabozzi (2020). The FinTech ecosystem provides a taxonomy of the different types of innovation occurring in FinTech. The FinTech ecosystem conceptual framework (Table 4) provides a clear roadmap for understanding the landscape of FinTech. The goal of classifying according to the FinTech Ecosystem framework was to identify research topic areas and synthesize the FinTech related literature published in the top IS journals. Once the FinTech ecosystem areas were defined, the authors categorized only a few articles at a time to minimize coder fatigue and to protect intercoder reliability (Neuendorf, 2002). If the reviewers did not agree on how a particular article was coded, the reviewers held a discussion, and this process resolved all disputes.

Table 3. Tradeoffs of Research Strategies (Source: Scandura & Williams, 2000)

Research Strategy	Strategy Tradeoffs		
	Degree of Precision Measurement	Degree of Realism of Context	Generalizability to Target Population
Formal Theory/ Literature Reviews	Low	Low	Maximizes
Sample Survey	Low	Low	Maximizes
Laboratory Experiment	Maximizes	Low	Low
Experimental Simulation	Moderate	Moderate	Low
Field Study: Primary Data	Low	Maximizes	Low
Field Study: Secondary Data	Low	Maximizes	Low
Field Experiment	Moderately High	Moderately High	Low
Judgment Task	Moderately High	Low	Moderately High
Computer Simulation	Low	Moderately High	Moderately High

Table 4. FinTech Ecosystem

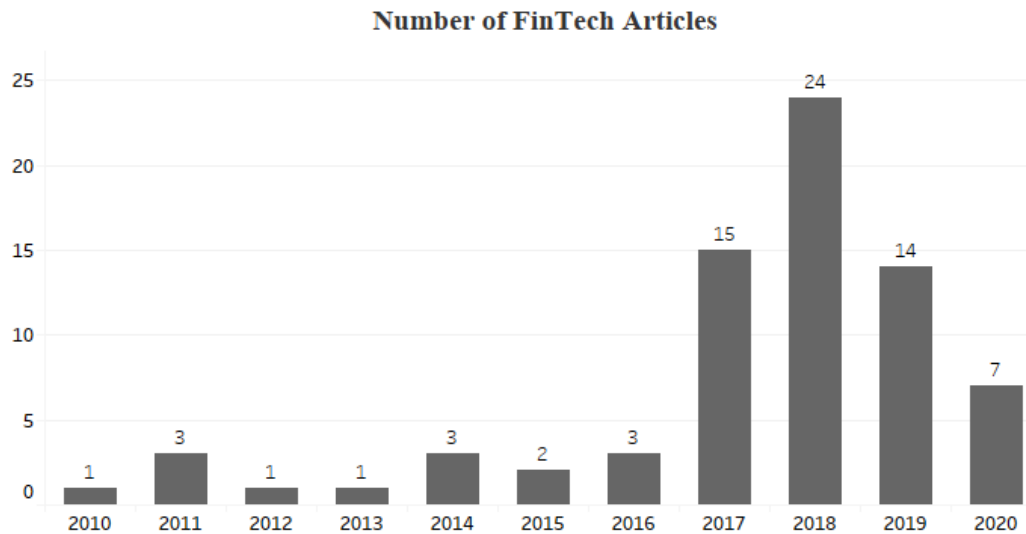
FinTech Ecosystem	Definition
Payments Technology	Payments and money transfers including cryptocurrencies and blockchain.
Digital Banking	Online and mobile banking operations conducted by both online only and legacy face-to-face banks.
Digital Wealth Management	Digital wealth managers, including robo-advisors that generate investment advice and portfolio allocations with little or no human intervention.
Capital Markets	Capital markets innovations including algorithmic trading, high-frequency traders, and market analytics.
FinTech Lending	Digital technology for loan approval, including online exchanges, online lenders and peer-to-peer (P2P) and marketplace lenders.
Equity Crowdfunding	Equity crowdfunding platforms allow individuals and organizations to raise money by giving the investor a stake or ownership in the project's success.
InsurTech	InsurTech refers to innovations in the insurance industry.
PropTech	PropTech refers to innovations in the property and real estate industry.

RESULTS

The study reviewed 74 journal articles from the 2010-2020 time period (Appendix A). Each of the articles in our pool were analyzed based on publication year, journal, research methodology and research topic. Our findings reveal that IS researchers started to give increased attention to FinTech topics later in the time period reviewed. Given that the FinTech industry picked up speed and attention around 2010, publications should be expected to occur a few years later to account for the peer review publication process. Figure 1 highlights the number of FinTech articles by year across the journals included in our review. Our results demonstrate that with FinTech growing in acceptance and popularity among consumers and organizations, that IS researchers were giving more attention to FinTech with the increase in number of articles published. An encouraging sign is that the last four years in our study, accounted for about 82% of all the FinTech articles published across the top IS journals.

As FinTech innovates, transforms and disrupts operations, one could expect a continuation of growing FinTech related publications.

Figure 1. Number of FinTech Articles Per Year



Next, our study aimed to examine the level to which FinTech topics were covered within each IS journal publication. Each journal was reviewed based on the number of FinTech articles published compared to the total number of articles published within a selected journal over the 2010-2020 time period. As shown in Table 5, only one top-tier IS journal (Journal of Information Technology) published over 6% of their articles on FinTech related topic areas. All other top-tier journals published less than 2.24% of their articles on FinTech related topics. Overall, the results suggest that the top-tier IS journals do not devote a substantial amount publication space on the FinTech ecosystem. The fact that top-tier IS journals published between 0.44% – 2.24% of their publications (excluding the Journal of Information Technology) on the FinTech ecosystem should not be particularly alarming since IS by definition is a broad field, but it does highlight opportunities for IS researchers to further investigate FinTech ecosystem developments.

Table 5. FinTech Articles as a Percentage of Total Articles 2010-2010

Journal Name	FinTech Articles	Total Articles	FinTech % of Total
JIT	17	251	6.74%
JMIS	12	535	2.24%
JAIS	9	408	2.21%
MISQ	13	654	1.99%
ISJ	6	391	1.53%
ISR	10	695	1.44%
JSIS	5	372	1.34%
EJIS	2	454	0.44%
TOTAL	74	3760	1.97%

FinTech Research Strategies

Our review of the research strategies applied across the 74 articles produced the following results (See Figure 2). The most prevalent research strategy applied was the field study: primary data research approach with 50.00% of all articles utilizing that approach. Field study: secondary data (32.43%), and formal theory/literature reviews (6.76%) were the only other categories garnering over 5% of the total. Our review resulted in zero articles classified as field experiment or judgment task, and only one article was classified as laboratory experiment. Overall, the top three research strategies made up over 89% of all research strategies applied (Field Study: Primary Data, Field Study: Secondary Data, and Formal Theory/Literature Review). An analysis of the research strategies over the 2010-2020 time period demonstrates that the field study: primary data research methodology was the only approach represented in almost every year of the selected time frame (See Table 6).

Figure 2. FinTech Research Category Totals/Percentages

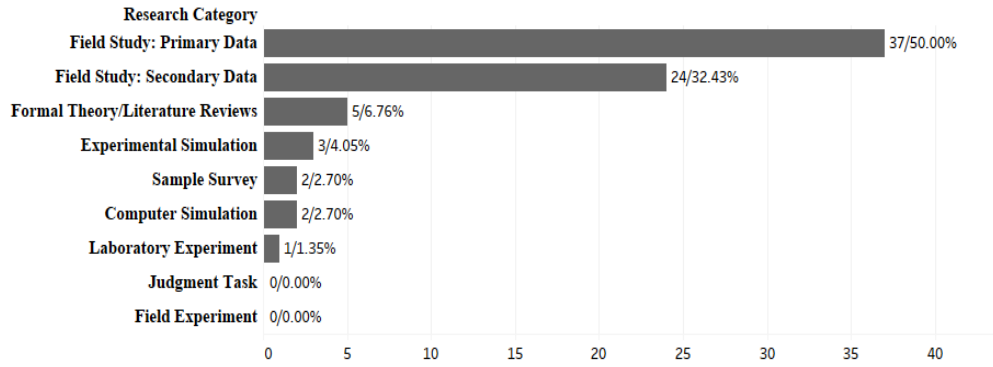


Table 6. Research Strategy vs. Year

Research Category	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Field Study: Primary Data	1	2	-	1	3	1	2	7	12	6	2
Field Study: Secondary Data	-	1	-	-	-	-	1	5	6	6	5
Formal Theory/Literature Review	-	-	-	-	-	-	-	1	3	1	-
Experimental Simulation	-	-	-	-	-	-	-	-	2	1	-
Sample Survey	-	-	-	-	-	-	-	1	1	-	-
Computer Simulation	-	-	1	-	-	1	-	-	-	-	-
Laboratory Experiment	-	-	-	-	-	-	-	1	-	-	-
Judgment Task	-	-	-	-	-	-	-	-	-	-	-
Field Experiment	-	-	-	-	-	-	-	-	-	-	-
Total	1	3	1	1	3	2	3	15	24	14	7

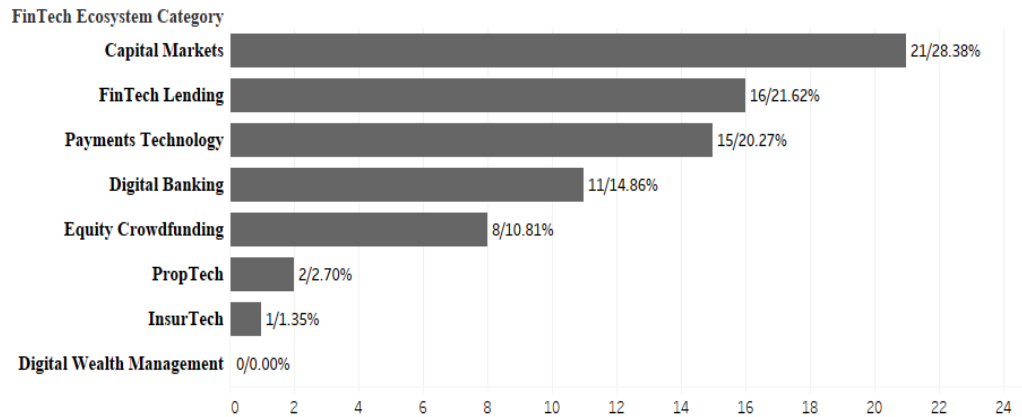
A review of our findings present inquiry into why the field study: primary data and field study: secondary data research strategies dominated the FinTech related articles published in the AIS Senior Scholars journal list. Since FinTech is relatively in the early stages of development, both the field study: primary and secondary data strategies tend to be more exploratory in nature and indicate the beginnings of a body of research (Scandura & Williams, 2000). The small percentage of articles investigating the FinTech ecosystem would support the relative infancy of the FinTech industry. Previous studies investigating a segment of IS research conducted in IS journals on the topics of Business Intelligence (Jourdan, Rainer, & Marshall, 2008) and Health Information Systems (Haried, Claybaugh, & Dai, 2019) followed similar research approaches when comparing research strategies applied in building a body of knowledge in the early stages. Interestingly, our findings revealed a very low usage of any research approaches other than field study: primary data and field study: secondary data. The limited variety of research strategies applied present numerous research opportunities for IS and FinTech researchers to expand the application of alternative research strategies. As the FinTech ecosystem matures, researchers are encouraged and expected to broaden the use of research methodologies in order to enhance and share FinTech knowledge.

FinTech Ecosystem Topics in IS Research

Our study classified each FinTech related paper according to the FinTech ecosystem (See Figure 3). Our results demonstrate areas of focus and areas of opportunity for IS researchers to expand their research efforts. Based on our classifications, 28.38% of the articles were classified in the capital markets category making it the most prevalent FinTech topic area investigated. Next, was the FinTech lending category with 21.62% of the articles. These categories were followed by payments technology with 20.27%, digital banking 14.86% and equity crowdfunding with 10.81% of the articles. All other categories in total represented less than 5% of the total FinTech articles. The low percent of digital wealth management (0%), InsurTech 1.35% and PropTech 2.70% should not be overwhelmingly surprising, given that these topics may be more directly suited for Finance academics and are in their infancy relative to FinTech. Overall, capital markets, FinTech lending and payments technology represented over 69% of all the FinTech research articles reviewed. In sum, our findings, help illustrate the amount of attention that IS journals have given to the FinTech ecosystem research categories and identify areas where IS researchers can build on their experiences to extend into FinTech topic areas in need.

A further review of the FinTech ecosystem topic categories during the 2010-2020 time period (See Table 7) reveals a few interesting results. Very few FinTech articles were published in the 2010-2016 time period. During this period, a total of one to three FinTech articles per year were published. The 14 articles over the first seven years in total accounted for only about 19% of the total of FinTech articles collected. However, starting in 2017, we can see a growing emphasis by IS researchers and publications by IS journals on the FinTech ecosystem. The last four years, 2017-2020 accounted for about 81% of all the FinTech articles published. The rationale for these findings could be driven by the fact that the “FinTech Revolution” really started in 2010 (Imerman & Fabozzi, 2020). With review times and times to publication taking anywhere from 2-3 years the higher number of publications a few years after the growth in FinTech is expected and understandable. With FinTech issues and technologies maturing and important to researchers and practitioners we do see a general increasing trend towards the end of the time period reviewed. Interestingly, upon further review of the later 2017-2020 time period, the growing number of FinTech publications does not appear to be consistently rising upward during this segment of the time period reviewed.

The highest number of FinTech publications (24) occurred in 2018, with the following years reporting a decrease in the number of FinTech publications, (14) in 2019 and only (7) in 2020. The number of publications appears to have maxed out in the year 2018 and the corresponding pace in 2019 and 2020 appears to have slowed down. IS researchers appear to have increased their investigations around the start of the “FinTech Revolution”, adjusting and accounting for publication review delays and now may have slowed their pace of FinTech based research based on the time period reviewed. These findings suggest that interest by the AIS Senior Scholars’ Basket of journals may have slowed or shifted to other emerging topic areas. However, we would encourage researchers to continue exploring FinTech and shift research efforts to focus on areas more salient to a more mature FinTech ecosystem.

Figure 3. FinTech Ecosystem Categories Totals/Percentages**Table 7. FinTech Ecosystem Categories by Year**

Topic Area	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Capital Markets	-	3	1	-	-	1	-	8	7	1	-
FinTech Lending	-	-	-	-	1	-	2	4	5	4	-
Payments Technology	-	-	-	-	-	-	-	-	7	6	2
Digital Banking	1	-	-	-	1	-	1	1	2	2	3
Equity Crowdfunding	-	-	-	1	-	1	-	2	2	1	1
PropTech	-	-	-	-	1	-	-	-	-	-	1
InsurTech	-	-	-	-	-	-	-	-	1	-	-
Digital Wealth Mgmt	-	-	-	-	-	-	-	-	-	-	-
Total	1	3	1	1	3	2	3	15	24	14	7

An analysis of the FinTech ecosystem topic categories versus research strategies (See Table 8) reveals the research strategies applied in the FinTech related IS publications. Overall, our findings demonstrate that the dominant research strategy applied was the field study with primary data collection approach. Specifically, payments technology, digital banking, capital markets and FinTech lending utilized field study with primary data collection as the research strategy applied for a large percentage of publications.

The next most common research strategy applied was the field study – secondary data collection approach. Overall, we see that over 83% of the publications applied either the field study-primary data collection or field study – secondary data collection approach.

Table 8. FinTech Ecosystem Category vs. Research Strategy

Category	FT/LR	Survey	Lab Exp.	Exp. Sim	Field Prim.	Field - Sec	Field Exp.	Judgment Task	Comp. Sim.	Total
Capital Markets	3	-	-	-	8	8	-	-	2	21
FinTech Lending	-	1	-	-	10	5	-	-	-	16
Payments Technology	1	-	-	1	9	4	-	-	-	15
Digital Banking	1	-	-	-	7	3	-	-	-	11
Equity Crowdfunding	-	1	1	2	2	2	-	-	-	8
PropTech	-	-	-	-	1	1	-	-	-	2
InsurTech	-	-	-	-	-	1	-	-	-	1
Digital Wealth Management	-	-	-	-	-	-	-	-	-	-
Totals	5	2	1	3	37	24	-	-	2	74

When looking across the FinTech ecosystem topic areas and research strategies we see zero papers applying field experience and judgment task, and only one publication applying the lab experiment research strategy. The rationale for these findings includes the fact many of the IS researchers conducting FinTech research are often located in a college of business where surveys and secondary data research approaches are far more common and accepted in comparison to field experiment, judgment tasks or lab experiments (Palvia et al., 2015). The FinTech ecosystem topic areas by themselves may not fit with the field experience, judgment task or lab experiment approaches, which may explain the low usage of these research strategies. These findings should not be considered as a limitation, but as an opportunity for IS researchers to explore when selecting an appropriate research strategy to study the variety of components that make up the FinTech ecosystem.

DISCUSSION

Given the innovation, transformation and disruption FinTech is delivering across industries and consumers, IS researchers are in the unique position to apply earlier discipline findings to the FinTech area. IS researchers are encouraged to continue their exploration into the FinTech ecosystem. In this article we demonstrate that IS researchers are in the early stages, with a later uptick in research activity investigating the FinTech ecosystem across the 2010-2020 time period. FinTech researchers have a unique opportunity to learn from and leverage studies that have already been completed by the highly correlated IS field. Our findings on the FinTech research published in the top-tier IS journals can serve as a bridge between FinTech and IS researchers where a cross disciplinary collaboration can be conducted to build off of the findings published in the leading IS journals as reported in this research article. Our findings as discussed above provide a strong overview of what FinTech research has been published in the top-tier IS journals by IS researchers and identifies areas for future FinTech ecosystem research.

The results provide a variety of implications for both researchers and journal editors. Our findings highlight that there is ample opportunity for IS researchers to continue their investigation into the FinTech ecosystem by applying a variety of research strategies. Although our findings report that two research strategies (Field Primary and Field Secondary) were dominantly applied, this identifies an opportunity for researchers to expand the application of research strategies in future work that are deemed appropriate in the study of FinTech. Our findings do not suggest that there is a weakness in not seeing a wide-variety of research strategies, the research only aims to bring this finding to the attention of researchers and editors. As a subject area matures, there is value in expanding research strategies applied that can provide useful insights into how theories are developing (Scandura & Williams, 2000). Our results demonstrate that few research strategies have been applied during our selected timeframe, which in itself offers multiple research opportunities to take advantage of the benefits each research strategy provides. As reported, there exists ample opportunity for FinTech researchers to review methodologies applied and search for gaps to maximize future FinTech literature contributions. Both entrepreneurial researchers and editors have the opportunity to focus their attention and efforts on under-researched topic areas or research strategies. Our results (see Figure 3) demonstrate that some FinTech ecosystem topic areas (i.e Digital Wealth Management, InsurTech, PropTech) have been understudied against other areas (i.e Captial Markets or FinTech Lending). Additionally, an opportunity exists to expand upon the research categories and FinTech ecosystem topic areas reviewed.

Our findings present openings for IS researchers to contribute to the growing trend of technology impacting the many areas of the FinTech ecosystem. IS researchers have historically been in a strong position to investigate how technology mediates and shapes financial markets in periods of stability and crisis (Currie & Lagoarde-Segot, 2017). As we have reported, very few IS articles based on a percentage of total IS journal publications (see Table 5) have addressed the FinTech ecosystem and the IS field can contribute significantly more to the FinTech research area. Overall, we hope that this research has provided an early foundation and that our review will lead to an enhancement to the body of knowledge and theoretical progression relative to FinTech.

One of the significant contributions of this study is reporting the FinTech ecosystem coverage in the top IS journals. Tables 5 and 6 illustrate how the FinTech ecosystem has received limited attention in the AIS Senior Scholars' Basket of eight journals over the 2010-2020 time period. However, in the later years reviewed in the study, we see an increase in the attention given to FinTech by the AIS Senior Scholars' Basket, but a gradual decrease again from the 2018 time period. While innovative FinTech developments have been introduced across a variety of business and consumer areas, it does not appear that the AIS Senior Scholars' Basket have recognized the developments to the same extent FinTech has expanded during the 2010-2020 time period. FinTech has evolved and gained popularity throughout the financial industry and our findings suggest that the Senior Scholars' Basket of journals has the opportunity to make larger contributions to the FinTech research environment.

In addition, our findings demonstrate a road map that can be applied by authors to help identify FinTech topic trends to properly target their research submissions. For example, authors are encouraged to review the research categories and FinTech ecosystem topic areas published and look for opportunities where published work or approaches are under-researched to make unique contributions to the field. Our findings suggest that entrepreneurial authors may want to target the under-studied FinTech ecosystem areas of Digital Wealth Management, InsurTech or PropTech. In addition, our findings highlight that some research strategies applied to FinTech are observed significantly more often. In our study, field study: primary data was applied in 50% of the FinTech related IS publications reviewed. These results are not uncommon in the IS literature, where survey methodology is the most popular approach in IS research (Palvia et al., 2015). IS researchers are encouraged to broaden their research strategy toolbox. Our findings suggest that IS researchers may want to move away from following the herd in regards to common FinTech topics and research strategies and look at applying unique alternative approaches to make their research contributions stand out.

LIMITATIONS AND FUTURE RESEARCH

As in all research articles, this study is not without limitations. One of the limitations is that only eight IS discipline focused journals were reviewed for this study. However, as we were interested in the FinTech papers published in the top-tier journal outlets of the IS discipline. The review of those journals ranked as the top journals in the IS field and represent a sample of arguably the best practices in IS research that should be of value to FinTech researchers. Thus, we view the AIS Senior Scholars' Basket to provide a representative sample of the top publications in the IS discipline. Future work is encouraged to include a sub-selection of non-top-tier IS journals to provide an expanded view of the FinTech studies completed by IS researchers. We also encourage the replication of the study that reviews FinTech research in the top-tier journals in the finance discipline. Research comparing what has been published by the IS discipline with finance academics could reveal interesting results. Overall, in the tradition of cumulative research our study reviewed the 2010-2020 time period and we expect and encourage similar work be conducted on a periodic basis to continue the review and accumulation of knowledge. The identified areas for future research and limitations notwithstanding, we believe this study has provided meaningful insights into the state of FinTech research published in top-tier IS journals.

CONCLUSION

In this review, we examined the overall FinTech research strategies and topic areas published in the leading IS academic journals over the 2010-2020 time-period. Our goal was to provide a comprehensive review or status report on the FinTech studies published in the AIS Senior Scholars' basket of the top eight IS journals that can be used to identify future opportunities to address any FinTech research gaps. Our analysis reveals a variety of research gaps and provides a framework to guide future FinTech research. The FinTech field is still relatively young, and our findings highlight that many topic and research strategies have yet to be widely applied and published in the top-tier IS journals leaving room for additional work to be done. As the FinTech field continues to evolve, researchers are encouraged to leverage IS discipline research findings. FinTech is by definition a cross-disciplinary field and researchers are encouraged to expand their lens across disciplines to examine, recognize and review the accumulated knowledge to tackle the unaddressed challenges. FinTech will continue to drive innovation, transformation and disruption and we hope our study will help researchers in the selection of topic areas and methodologies to guide their FinTech investigations.

REFERENCES

- AISnet. (2011). *Senior scholars' basket of journals*. Retrieved from <http://aisnet.org/?SeniorScholarBasket>
- Arner, D. W., Barberis, J., & Buckley, R.P. (2016). 150 years of FinTech: An evolutionary analysis. *Finsia Journal of Applied Finance*, 3, 22-29.
- Cai, C. W. (2018). Disruption of financial intermediation by FinTech: A review on crowdfunding and blockchain, *Accounting & Finance*, 58(4), 965-992. doi: 10.1111/acfi.12405
- CB Insights. (2020). *The state of FinTech Q2'20 report: Investment & sector trends to watch*. Retrieved from <https://www.cbinsights.com/research/report/fintech-trends-q2-2020/>
- Chemmanur, T. J., Imerman, M. B., Rajaiya, H., & Yu, Q. (2020). Recent developments in the FinTech industry. *Journal of Financial Management, Markets and Institutions*, 8(1), 1-31. doi: 10.1142/S2282717X20400022
- Cumbie, B. A., Jourdan, Z., Peachy, T., Dugo, T. M., & Craighead, C. W. (2005). Enterprise resource planning research: Where are we now and where should we go from here?, *Journal of Information Technology Theory and Application (JITTA)*, 7(2), 21-36.
- Currie, W. L. & Lagoarde-Segot, T. (2017). Financialization and information technology: Themes, issues and critical debates-part I. *Journal of Information Technology*, 32(3), 211-217. doi:10.1057/s41265-017-0044-8
- Das, S. R. (2019). The future of fintech. *Financial Management*, 48(4), 981-1007. doi: 10.1111/fima.12297
- Ernst & Young Global Limited. (2019). *Global FinTech Adoption Index 2019*. Retrieved from https://www.ey.com/en_us/ey-global-fintech-adoption-index
- Haried, P., Claybaugh, C., & Dai, H. (2019). Evaluation of health information systems research in information systems research: A meta-analysis. *Health Informatics Journal*, 25(1), 186-202. doi: 10.1177/1460458217704259

Hendershott, T., Zhang, M. X., Zhao, J. L., & Zheng, E. (2018). Special issue of information systems research fintech – Innovating the financial industry through emerging information technologies. *Information Systems Research*, 28(4), 885-886. doi: 10.1287/isre.2017.0762

Imerman, M. B., & Fabozzi, F. J. (2020). Cashing in on innovation: a taxonomy of FinTech. *Journal of Asset Management*, 21, 167–177. doi: 10.1057/s41260-020-00163-4

Jourdan, Z., Rainer, R. K., & Marshall, T. E. (2008). Business intelligence: An analysis of the literature. *Information Systems Management*, 25(2), 121-131. doi:10.1080/10580530801941512

Lapavitsas, C. (2011). Theorizing financialization. *Work, Employment and Society*, 25(4), 611-626. doi:10.1177/0950017011419708

Lagoarde-Segot, T., & Currie, W. L. (2018). Financialization and information technology: A multi-paradigmatic view of IT and finance-part II. *Journal of Information Technology*, 33(1), 1-8. doi: 10.1057/s41265-017-0045-7

Neuendorf, K. A. (2002). *The Content Analysis Guidebook*. Thousand Oaks, CA: Sage.

Palvia, P., Kakhki, M. D., Ghoshal, T., Uppala, V., & Wang, W. (2015). Methodological and topic trends in information systems research: A meta-analysis of IS journals. *Communications of the Association for Information Systems*, 37, 630–650. doi: 10.17705/1CAIS.03730

Scandura, T. A., & Williams, E. A. (2000). Research methodology in management: Current practices, trends, and implications for future research. *Academy of Management journal*, 43(6), 1248-1264. doi: 10.5465/1556348

APPENDIX 1: COMPLETE LIST OF FIN TECH ARTICLES

- Agarwal, A., Leung, A., Konana, P., & Kumar, A. (2017). Cosearch attention and stock return predictability in supply chains. *Information Systems Research*, 28(2), 265-288.
- Aggarwal, N., Dai, Q. & Walden, E. A. (2011). The more, the merrier? How the number of partners in a standard-setting initiative affects shareholder's risk and return. *MIS Quarterly*, 35(2), 447-462.
- Andersen, J. V., & Ingram Bogusz, C. (2019). Self-organizing in blockchain infrastructures: Generativity through shifting objectives and forking. *Journal of the Association for Information Systems*, 20(9), 1242-1273.
- Banker, R. D., Mitra, S., & Sambamurthy, V. (2011). The effects of digital trading platforms on commodity prices in agricultural supply chains. *MIS Quarterly*, 35(3), 599-615.
- Beck, R., Müller-Bloch, C., & King, J. L. (2018). Governance in the blockchain economy: A framework and research agenda. *Journal of the Association for Information Systems*, 19(10), 1020-1034.
- Bretschneider, U., & Leimeister, J. M. (2017). Not just an ego-trip: Exploring backers' motivation for funding in incentive-based crowdfunding. *The Journal of Strategic Information Systems*, 26, 246-260.
- Burtch, G., & Chan, J. (2019). Investigating the relationship between medical crowdfunding and personal bankruptcy in the united states: Evidence of a digital divide. *MIS Quarterly*, 43(1), 237-262.
- Burtch, G., Ghose, A., & Wattal, S. (2013). An empirical examination of the antecedents and consequences of contribution patterns in crowd-funded markets. *Information Systems Research*, 24(3), 499-519.
- Burtch, G., Ghose, A., & Wattal, S. (2014). Cultural differences and geography as determinants of online prosocial lending. *MIS Quarterly*, 38(3), 773-794.
- Burtch, G., Ghose, A., & Wattal, S. (2016). Secret admirers: An empirical examination of information hiding and contribution dynamics in online crowdfunding. *Information Systems Research*, 27(3), 478-496.

- Burtch, G., Hong, Y., & Liu, D. (2018). The Role of Provision Points in Online Crowdfunding. *Journal of Management Information Systems*, 35(1), 117-144.
- Chaniasa, S., Myers, M. D., & Hess, T. (2019). Digital transformation strategy making in pre-digital organizations: The case of a financial services provider. *The Journal of Strategic Information Systems*, 28, 17-33.
- Chanson, M., Bogner, A., Bilgeri, D., Fleisch, E., & Wortmann, F. (2019). Blockchain for the IoT: Privacy-preserving protection of sensor data. *Journal of the Association for Information Systems*, 20(9), 1272-1307.
- Chong, A. Y. L., Lim, E. T. K., Hua, X., Zheng, S., & Tan, C. (2019). Business on chain: A comparative case study of five blockchain-inspired business models. *Journal of the Association for Information Systems*, 20(9), 1308-1337.
- Cooper, R., Seddon, J., & Van Vliet, B. (2017). High-frequency trading and conflict in the financial markets. *Journal of Information Technology*, 32(3), 270-282.
- Currie, W. L., & Lagoarde-Segot, T. (2017). Financialization and information technology: Themes, issues and critical debates – part I. *Journal of Information Technology*, 32(3), 211-217.
- Currie, W. L., & Seddon, J. J. M. (2017). The regulatory, technology and market ‘dark arts trilogy’ of high frequency trading: a research agenda. *Journal of Information Technology*, 32(2), 111-126.
- Deng, S., Huang, Z., Sinha, A. P., & Zhao, H. (2018). The interaction between microblog sentiment and stock returns: An empirical examination. *MIS Quarterly*, 42(3), 895-918.
- Drummer, D., Feuerriegel, S., & Neumann, D. (2017). Crossing the next frontier: the role of ICT in driving the financialization of credit. *Journal of Information Technology*, 32(3), 218-233.
- Dua, W., Pan, S. L., Leidner, D. E., & Yinga, W. (2019). Affordances, experimentation and actualization of FinTech: A blockchain implementation study. *The Journal of Strategic Information Systems*, 28, 50-65.

- Eaton, B., Hedman, J., & Medaglia, R. (2018). Three different ways to skin a cat: Financialization in the emergence of national e-ID solutions. *Journal of Information Technology*, 33(1), 70-83.
- Feller, J., Gleasure, R., & Treacy, S. (2017). Information sharing and user behavior in internet-enabled peer-to-peer lending systems: an empirical study. *Journal of Information Technology*, 32(2), 127-146.
- Ge, R., Feng, J., Gu, B., & Zhang, P. (2017). Predicting and deterring default with social media information in peer-to-peer lending. *Journal of Management Information Systems*, 34(2), 401-424.
- Glaser, F., & Risius, M. (2018). Effects of transparency: Analyzing social biases on trader performance in social trading. *Journal of Information Technology*, 33(1), 19-30.
- Gleasure, R. (2015). Resistance to crowdfunding among entrepreneurs: An impression management perspective. *The Journal of Strategic Information Systems*, 24, 219-233.
- Gleasure, R., Conboy, K., & Morgan, L. (2019). Talking up a storm: How backers use public discourse to exert Control in crowdfunded systems development projects. *Information Systems Research*, 30(2), 447-465.
- Gleasure, R., & Feller, J. (2016). A rift in the ground: Theorizing the evolution of anchor values in crowdfunding communities through the Oculus Rift case study. *Journal of the Association for Information Systems*, 17(10), 708-736.
- Gleasure, R., & Morgan, L. (2018). The pastoral crowd: Exploring self-hosted crowdfunding using activity theory and social capital. *Information Systems Journal*, 28(3), 489-515.
- Gleasure, R., O'Reilly, P., & Cahalane, M. (2017). Inclusive technologies, selective traditions: a socio-material case study of crowdfunded book publishing. *Journal of Information Technology*, 32(4), 326-343.
- Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). On the fintech revolution: Interpreting the forces of innovation, disruption, and transformation in financial services. *Journal of Management Information Systems*, 35(1), 220-265.

- Gozman, D., & Currie, W. (2014). The role of Investment Management Systems in regulatory compliance: a Post-Financial Crisis study of displacement mechanisms. *Journal of Information Technology*, 29(1), 44-58.
- Gozman, D., Liebenau, J., & Mangan, J. (2018). The innovation mechanisms of fintech start-ups: Insights from SWIFT's innotribe competition. *Journal of Management Information Systems*, 35(1), 145-179.
- Haferkorn, M. (2017). High-frequency trading and its role in fragmented markets. *Journal of Information Technology*, 32(3), 283-296.
- Hong, Y., Hu, Y., & Burtch, G. (2018). Embeddedness, prosociality, and social influence: Evidence from online crowdfunding. *MIS Quarterly*, 42(4), 1211-1224.
- Hu, D., Zhao, J.L., Hua, Z., & Wong, M. C. S. (2012). Network-based modeling and analysis of systemic risk in banking system. *MIS Quarterly*, 36(4), 1269-1291.
- Ingram Bogusz, C., & Morisse, M. (2018). How infrastructures anchor open entrepreneurship: The case of Bitcoin and stigma. *Information Systems Journal*, 28(6), 1176-1212.
- Ingram Bogusz, C., Teigland, R., & Vaast, E. (2019). Designed entrepreneurial legitimacy: the case of a Swedish crowdfunding platform. *European Journal of Information Systems*, 28(3), 318-335.
- Jiang, Y., Ho, Y., Yan, X., & Tan, Y. (2018). Investor platform choice: Herding, platform attributes, and regulations. *Journal of Management Information Systems*, 35(1), 86-116.
- Jiang, Y., Ho, Y., Yan, X., & Tan, Y. (2020). When online lending meets real estate: Examining investment decisions in lending-based real estate crowdfunding. *Information Systems Research*, 31(3), 715-730.
- Joia, L. A., & dos Santos, R. P. (2019). ICT-equipped bank boat and the financial inclusion of the riverine population of Marajó Island in the Brazilian Amazon. *Information Systems Journal*, 29(4), 842-887.
- Kaniadakis, A., & Constantinides, P. (2014). Innovating financial information infrastructures: The transition of legacy assets to the securitization market. *Journal of the Association for Information Systems*, 15, 244-262.

Kazan, E., Tan, C., Lim, E., Sørensen, C., & Damsgaard, J. (2018). Disentangling digital platform competition: The case of UK mobile payment platforms. *Journal of Management Information Systems*, 35(1), 180-219.

Kim, K., & Hann, I. (2019). Crowdfunding and the democratization of access to capital—An illusion? Evidence from housing prices. *Information Systems Research*, 30(1), 276-290.

Kim, K., Mithas, S., & Kimbrough, M. (2017). Information technology investments and firm risk across industries: Evidence from the bond market. *MIS Quarterly*, 41(4), 1347-1382.

Kim, K., & Viswanathan, S. (2019). The experts in the crowd: The role of experienced investors in a crowdfunding market. *MIS Quarterly*, 43(2), 347-372.

Lagoarde-Segot, T., & Currie, W. L. (2018). Financialization and information technology: A multi-paradigmatic view of IT and finance - Part II. *Journal of Information Technology*, 33(1), 1--8.

Lausen, J., Clapham, B., Siering, M., & Gomber, P. (2020). Who is the next “Wolf of Wall Street”? Detection of financial intermediary misconduct. *Journal of the Association for Information Systems*, 21(5), 1153-1190.

Lauterbach, J., Mueller, B., & Kahrau, F. (2020). Achieving effective use when digitalizing work: The role of representational complexity. *MIS Quarterly*, 44(3), 1023-1048.

Leonardi, P. M., Bailey, D. E., Diniz, E. H., Sholler, D., & Nardi, B. (2016). Multiplex appropriation in complex systems implementation: The case of Brazil’s correspondent banking system. *MIS Quarterly*, 40(2), 461-474.

Li, T., van Dalen, J., & van Rees, P. J. (2018). More than just noise? Examining the information content of stock microblogs on financial markets. *Journal of Information Technology*, 33(1), 50-69.

Ma, T., & McGroarty, F. (2017). Social Machines: how recent technological advances have aided financialisation. *Journal of Information Technology*, 32(3), 234-250.

Mai, F., Shan, Z., Bai, Q., Wang, X., and Chiang, R. H. L. (2018). How does social media impact bitcoin value? A test of the silent majority hypothesis. *Journal of Management Information Systems*, 35(1), 19-52.

- Mashim, M. J., Kannan, K. N., & Maximiano, S. (2017). Information feedback, targeting, and coordination: An experimental study. *Information Systems Research*, 28(2), 289-308.
- Menon, N. M. (2018). Information spillover and semi-collaborative networks in insurer fraud detection. *MIS Quarterly*, 42(2), 407-426.
- Mochen, Y., Adomavicius, G., Burtch, G., & Rena, Y. (2018). Mind the gap: Accounting for measurement error and misclassification in variables generated via data mining. *Information Systems Research*, 29(1), 4-24.
- Rickett, L., & Datta, P. (2018). Beauty-contests in the age of financialization: Information activism and retail investor behavior. *Journal of Information Technology*, 33(1), 31-49.
- Roma, P., Gal-Or, E., & Chen, R. R. (2018). Reward-based crowdfunding campaigns: Informational value and access to venture capital. *Information Systems Research*, 29(3), 679-697.
- Rossi, M., Mueller-Bloch, C., Thatcher, J. B., & Beck, R. (2019). Blockchain research in information systems: Current trends and an inclusive future research agenda. *Journal of the Association for Information Systems*, 20(9), 1388-1403.
- Ryu, S., & Kim, Y. (2018). Money is not everything: A typology of crowdfunding project creators. *The Journal of Strategic Information Systems*, 27, 350-368.
- Schinckus, C. (2018). An essay on financial information in the era of computerization. *Journal of Information Technology*, 33(1), 9-18.
- Schmidt, C., & Buxmann, P. (2011). Outcomes and success factors of enterprise IT architecture management: empirical insight from the international financial services industry. *European Journal of Information Systems*, 20(2), 168-185.
- Siering, M. (2019). The economics of stock touting during Internet-based pump and dump campaigns. *Information Systems Journal*, 29(2), 456-483.
- Siering, M., Clapham, B., Engel, O., & Gomber, P. (2017). A taxonomy of financial market manipulations: establishing trust and market integrity in the financialized economy through automated fraud detection. *Journal of Information Technology*, 32(3), 251-269.

- Sun Yin, H. H., Langenheldt, K., Harlev, M., Mukkamala, R. R., & Vatrappu, R. (2019). Regulating cryptocurrencies: A supervised machine learning approach to de-anonymizing the Bitcoin blockchain. *Journal of Management Information Systems*, 36(1), 37-73.
- Tallon, P. P. (2010). A service science perspective on strategic choice, IT, and performance in U.S. banking. *Journal of Management Information Systems*, 26(4), 219-252.
- Thies, F., Wessel, M., & Benlian, A. (2018). Network effects on crowdfunding platforms: Exploring the implications of relaxing input control. *Information Systems Journal*, 28(6), 1239-1262.
- Wessel, M., Thies, F., & Benlian, A. (2017). Opening the floodgates: the implications of increasing platform openness in crowdfunding. *Journal of Information Technology*, 32(4), 344-360.
- Xie, P., Chen, H., & Hu, Y. J. (2020). Signal or noise in social media discussions: The role of network cohesion in predicting the Bitcoin market. *Journal of Management Information Systems*, 37(4), 933-956.
- Xu, J. J., & Chau, M. (2018). Cheap talk? The impact of lender-borrower communication on peer-to-peer lending outcomes. *Journal of Management Information Systems*, 35(1), 53-85.
- Yong, J., Chao, D., Yang, D., & Hsing, K. C. (2020). Click to success? The temporal effects of Facebook likes on crowdfunding. *Journal of the Association for Information Systems*, 21(5), 1191-1213.
- Zhang, X., & Zhang, L. (2015). How does the internet affect the financial market? An equilibrium model of internet-facilitated feedback trading. *MIS Quarterly*, 39(1), 17-49.
- Zheng, H., Zu, B., Zhang, M., & Wang, T. (2018). Sponsor's cocreation and psychological ownership in reward-based crowdfunding. *Information Systems Journal*, 28(6), 1213-1238.
- Zhou, M., Geng, D., Abhishek, V., & Li, B. (2020). When the bank comes to you: Branch network and customer omnichannel banking behavior. *Information Systems Research*, 31(1), 176-197.

Ziolkowski, R., Miscione, G., & Schwabe, G. (2020). Decision problems in blockchain governance: Old wine in new bottles or walking in someone else's shoes? *Journal of Management Information Systems*, 37(2), 316-348.