Blockchain and Information Systems

Moderators

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ABSTRACT

Blockchain is one of the 21st centuries most impactful inventions. In addition to creating and facilitating crypto-tokens such as Bitcoin, Ethereum, Stellar, Ripple, etc. this technology is impacting several industries. Blockchain technology is playing an important role in decentralizing transaction based systems that were otherwise traditionally managed centrally. In addition to decentralizing transaction networks, Blockchain has been at the center of significant developments in the field of smart contracts, information systems such as logistic management systems, payroll management systems, human resource management systems, medical information systems and other legal and technical infrastructure. We propose this panel to engage the Information Systems Community about the current and future research trends in Blockchain based information systems.

Keywords (Required)

Bitcoin, Blockchain, Information Systems, Smart Contracts.

INTRODUCTION

Blockchain’s implementation has impacted several industries (Subramanian, 2017). In addition to improving transactional efficiencies by increasing transaction speed, and reducing (and in some cases eliminating) transaction costs, the blockchain makes transactions inherently trustful without the need for a central authority – by facilitating trust through decentralized consensus. For example, decentralized applications such as Cryptokitties have started becoming a viable alternative to centralized gaming platforms. Similarly initial coin offers have facilitated capital to the extent several billion dollars globally. While on one side, millennials have leapfrogged equity markets and have directly invested in cryptocurrencies as an income generating stream, a large segment of the population is completely unaware of the crypto-ecosystem (Catalini & Tucker, 2017; Cusumano, 2014; Subramanian, Cousins, & Zadeh, 2017). This digital divide, the difference between the haves and the have-nots, has bought forth many questions with respect to the adoption of Blockchain driven information systems by both businesses and individuals (Dewan, Ganley, & Kraemer, 2010; DiMaggio, Hargittai, Celeste, & Shafer, 2004). Similarly, the usage of cryptocurrencies such as Bitcoin for illegal purposes has caused much debate about the role of cryptocurrencies, the impact on society (Blundell-Wignall, 2014) and approaches to regulation. The role of Initial Coin Offers (ICOs), to facilitate financial activities has also seen increased interest amongst scholars and regulatory agencies such as SEC, FDoT, NYSE, NASDAQ, etc (Dell’Erba, 2017). Information system scholars have lately started studying adoption of cryptocurrencies, the informational efficiency of pricing crypto-assets, etc.
PANEL ORGANIZATION

1) Panel overview and Objective

The panel consists of 4 scholars as panelists and 2 moderators. Each participant possesses expertise in specific areas in Blockchain based research. The topics for the panel include but are not limited to:

1. The role of Blockchain and cryptocurrencies in enabling a digital currency driven economy
2. The mobile commerce economy
3. The insurance sector and smart contracts
4. Electronic commerce and electronic marketplaces.

The objective of this panel is to discuss and debate a few of the following topics which are pertinent to both scholars and practitioners:

1) Research gaps in existing platform network economics that are addressed by the Blockchain.
2) Behavioral information systems, the adoption of Blockchain and cryptocurrencies and the cryptocurrency digital divide.
3) Legal challenges pertaining to the Blockchain and cryptocurrencies.
4) The role of the Blockchain in ensuring information security and data security.
5) The design of cryptocurrencies (and the Blockchain).
6) The industrial applications of smart contracts and how smart contract applications such as digital goods or ICOs are changing existing norms of platform based information systems.
7) The role of Blockchain based analytics for enabling Artificial Intelligence based applications such as automated reasoning, supply chain logistics, etc.
8) Issues with current Blockchain implementations, and, what we as IS Scholars can do to address these issues.

Conference attendees would attend this panel in order to understand and learn about the interesting problems in the Blockchain domain that could be of interest to academic research in the area of transactional information systems. Faculty and doctoral students working in the areas of platform information systems, or behavioral adoption studies for IT/IS systems will benefit from the discussion topics above.

2) Panel layout and design.

The panel would consist of 4 presenting scholars and 2 moderators. The panel seating arrangement is discussed below.

The flow of the panel discussion

The panel discussion will be in a question and answer format and will proceed sequentially from topic (1) through topic (8) as listed above. Moderators will pose questions pertaining to topics 1 through 8 given in section 2 above to specific panelists based on their expertise. Each question will have a primary discussant, and, a secondary discussant. Later, the audience will also be allowed to participate and pose questions to the panelists. Each of the segments above will be timed as to not exceed 7 minutes including audience Question and Answers. We expect the panel discussion session to take about 60 minutes (1 hour).

3) Panel Participants and Panel Moderators

The bios of the panel participants and moderators are as follows:
1. Dr. Karlene C. Cousins is associate professor and incoming chair of the Information Systems and Business Analytics in the College of Business at the Florida International University where she teaches courses in technology innovation, information systems strategy and governance and healthcare information law. She is recognized for her research on mobile technologies and the legal and regulatory issues impacting the use and innovation of information technology. She serves as an expert panelist and speaker in the mobile technologies area. Dr. Cousins has published her research in journals such as the Communications of the ACM, Journal of the AIS, Decision Sciences, Communications of the AIS and the European Journal of Information Systems. In addition, Karlene serves as faculty director of the MSIS Program and Director of the ATOM Think Tank - FIU’s first faculty technology consulting practice.

2. Dr. Daniel Conway holds a Ph.D. in Decision Sciences from Indiana University, and is currently an instructor in the Information Systems Decision Sciences Department at the University of South Florida. His current research interests involve blockchain, analytics, data science, and artificial intelligence. Prior to joining USF, Conway served on faculty in business and engineering schools at Notre Dame, Indiana, Iowa, Northwestern, Florida, and Virginia Tech. He is currently in the SAE IoT program committee and a columnist for CognitiveWorld. He is also Chief Decision Officer at Qlytix, Chief Operating Officer at blockchain startup Apollo Group, an advisor to blockchain companies Nexus Embassy and KoreConX, and was one of the first 25 bitcoin miners many years ago.

3. Dr. Alpen Sheth holds a Ph.D. in Urban Planning from MIT. He currently works as a senior analyst as Etherisc – a smart contract firm that works in the sector of managing Risk using Ethereum smart contracts. His work with smart contracts at Etherisc is attempting to reinvent traditional insurance so as to make it affordable to everybody, and, to make insurance marketplaces more efficient. Prior to Etherisc, Alpen was co-founder of Economic Space Agency, that developed smart contract applications using Gravity and Space – 2 next generation blockchain technologies. His work experience spans systemic risk management related to weather risk, smart sensors for infrastructures, agritech risk, disaster financing in the US, Carribbean and South Asia. He has worked with the World Bank, Risk Management Solutions, MIT, INURED and the Miami Downtown development authority.

4. Dr. Hemang Subramanian is an assistant professor in the Information Systems and Business Analytics Department at the Florida International University. Hemang holds a Ph.D. from the Scheller College of Business, Georgia Tech specializing in Information Systems. Before entering academics, Hemang spent 11 years working in the high-tech industry. He was a senior engineering manager at Yahoo!, leading software development teams that built global cloud-based platforms. His research focuses on analyzing the behavior of market actors via data analytics, statistics in product markets, Blockchain technology, and cryptocurrency disruption. His research has been published in the Information Systems Research (ISR) Journal and Communications of the ACM, and has been featured at industry-wide conferences.

5. Dr. Lina Bouayad is an assistant professor in the Information Systems and Business Analytics Department at the Florida International University, and a Research Associate at the VA HSR&D/RR&D Center of Innovation on Disability and Rehabilitation Research. With a background in computer science and management information systems, her research involves the use of innovative analytics methods to augment provider effectiveness and improve patient experience. Such solutions include the development of develop a blockchain-based solution that would enable patients to share their validated comprehensive treatment records with peers, an on-demand scheduling system in non-urgent settings, and a real-time clinical recommender system that provides recommendations for medications along with associated cost information at the time of prescription.

6. Jose Pineda (Moderator 1) is currently a Ph.D. candidate in business administration at Florida International University (FIU) where he also obtained a Master of Science in Information Systems degree. Before joining the program, he was part of World Fuel Services rotational leadership program within the information technology side of the firm. His research interests include the application of business analytics, blockchain technology, and human-computer interaction. Jose has developed and taught courses on business analytics, and database systems including special topics sessions on blockchain technology and NoSQL databases.

7. Eduardo Salcedo (Moderator 2) is a Ph.D. student at Florida International University’s department of Information Systems and Business Analytics. Before joining the Ph.D. program, he worked in management in the
retail sector. His research interests lie in blockchain technologies, cybersecurity, and the negative influences of technology. Currently he is working on a study involving the use of the blockchain in business settings.

4) Equipment Requirements
We would require the following equipment for this panel:

1. 6 chairs.
2. 4 microphones.
3. A desk for the panelists and moderators.
4. A projector

CONCLUSION
This panel will highlight important avenues of research pertaining to Blockchain to the information systems community overall. As the topic of Blockchain and cryptocurrencies is gaining importance in both industry and in academia, several international conferences such as ECIS, HICCS and journals such as the JAIS are dedicating special sections to authors contributing literature to this area. The audience at AMCIS i.e. both practitioners and research scholars will gain insight about future research directions and about technological disruption from our panel of experts and moderators.

REFERENCES