Introduction to Blockchain Use Cases and Innovations

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The disruptive nature of Blockchain technology is considered foundational for evolving the Internet into an exchange medium of value and trust. In recent years, Blockchain has been receiving considerable attention with many use-cases identified in the public and private sectors. The embryonic stage of the technology, which is still evolving and lacks mass adoption, is compared by many to the early days of the World Wide Web. Blockchain holds the potential to fuel interesting use-cases and decentralized applications. For the last three years, this mini-track has been a forum dedicated to the exploration and dissemination of the technology, communicating insights on how it could influence existing processes and foster innovation. This year we accepted seven papers that extend the existing body of knowledge and further contribute to the widespread adoption of Blockchain technology.

The first paper entitled "Formal Verification of Functional Requirements for Smart Contract Compositions in Supply Chain Management Systems", was authored by Sarra Alqahtani, Xinchi He, Rose Gamble, Mauricio Papa. The paper introduces a verification approach for systems composed of interacting smart contracts that are developed and controlled by many different entities.

The next paper entitled "Distributed Ledger Technology for the systematic Investigation and Reduction of Information Asymmetry in Collaborative Networks" was written by Markus Schinle, Christina Erler and Wilhelm Stork. This paper focuses on collaborative networks and it analyses requirements and problems with regards to the interorganizational information exchange in order to understand the role of the Distributed Ledger Technologies (DLTs).

The third paper, entitled "Bridges Between Islands: Cross-Chain Technology for Distributed Ledger Technology" was authored by Niclas Kannengießer, Michelle Pfister, Malte Greulich, Sebastian Lins and Ali Sunyaev. This paper considers that heterogeneous characteristics of DLTs (referred to as islands of technology) should be bridged with cross-chain characteristics to result in more powerful applications. The paper resolves literature contradictions and opens interesting directions for further exploration and research.

The fourth paper was written by Anna Johnson, Denise McCurdy, Daphne Schechter and Karen Loch and it is entitled "Hot or Cold… How Ready are Third Party Logistics Cold Storage Companies to Implement Blockchain?". The paper focuses on a multi-case study to investigate factors that impact the level of readiness in adopting the Blockchain technology.

The fifth paper entitled "Blockchain Technology as a Means for Brand Trust Repair – Empirical Evidence from a Digital Transgression" was authored by Martin Fleischmann, Bjoern S. Ivens and Bhaskar Krishnamachari. The paper expands trust repair theories to the context of blockchain, and it suggests that the use of blockchain can improve brand repair strategies.

The sixth paper written by Leonardo Maria De Rossi, Nico Abbatemarco, Gianluca Salviotti and Aakanksha Gaur and it is entitled "Beyond a Blockchain Paradox: How Intermediaries Can Leverage a Disintermediation Technology". The article employs a qualitative research approach and identifies three business models that Italian notaries can implement to get value from permissionless Blockchains.

Lastly, the paper entitled "Blockchain in Academia: Where do we stand and where do we go?" and was authored by Marinos Themistocleous, Klitos Christodoulou, Elias Iosif, Soulla Louca, and Demetrios Tseas. This paper focuses on two research questions to investigate the status of Blockchain education in academia and identifies a set of potential constructs for drafting Blockchain postgraduate curricula that can efficiently be used to educate students on Blockchain technology and cryptocurrencies.

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