## **Pre-ICIS SIGBPS 2018 Workshop on Blockchain and Smart Contract**

December 13, 2018

Marriott Marquis, Pacific Suite B, 780 Mission St, San Francisco, CA

7:30am - 8:00am	Workshop Registration
8:00am - 8:15am	Welcoming Remarks
8:15am - 9:15am	Session 1. Economics of Blockchain and Smart Contract
	Session Chair: Manlu Liu (Rochester Institute of Technology)
	Adoption: A Proposed Moderated-Mediation Model
	ang Subramanian, and Karlene Cousins
	Smart Contract Adoption in Blockchain Network (Best Paper Nominee)
Xudong Cai, Xi Zhao, Bin Z	
	st on Smart Contract: An Economic Analysis on Token-Curated Registry
Ping Fan Ke  Diffusion of Innovation in Accounting: How have the Big Four been Adopting Blockchain Technology? (Best Paper Nominee)	
Shoufan Qiu, Jennifer Xu, and Manlu Liu	
9:15am -10:15am	Keynote - New Markets Engineering with Blockchain
3.13diii 10.13diii	Prof. Roman Beck (IT University of Copenhagen)
10:15am -10:30am	Coffee Break
10.20 11.20	Session 2. Service Science and Engineering in Blockchain Ecosystems
10:30am -11:30pm	Session Chair: Dan Ke (Wuhan University)
Toward Blockchain Design for Public Sector Municipal Lending	
	Trenck, Jonas Johnsson, and Dina Koutsikouri
	Based on Blockchain Technology
	, Yang Yumeng, and Rui Shi
	ge of Crowdsourcing? A Block-chain based Attempt
Chaocheng He, Fuzhen Liu, Dan Ke, and Jiang Wu	
	tta Marketplace (Best Paper Nominee)
	rraute, Gustavo Ajzenman, and Martin Minnoni
11:30pm - 1:00pm	Lunch Break
	Panel - Research Opportunities of Blockchain Technology
1:00pm – 2:00pm	Panel - Research Opportunities of Blockchain Technology Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao
1:00pm – 2:00pm	
	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan
1:00pm – 2:00pm 2:00pm - 3:00pm	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao
2:00pm - 3:00pm	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract
2:00pm - 3:00pm  Deploying Blockchain Techn Katarina Stanoevska-Slabeva	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  nology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat
2:00pm - 3:00pm  Deploying Blockchain Techr Katarina Stanoevska-Slabeva Information Monetization as	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  nology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains
2:00pm - 3:00pm  Deploying Blockchain Techr Katarina Stanoevska-Slabeve Information Monetization as Aseem Pahuja, Chuan-Hoo	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  nology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains Tan, and Zhiling Guo
2:00pm - 3:00pm  Deploying Blockchain Techr Katarina Stanoevska-Slabevs Information Monetization as Aseem Pahuja, Chuan-Hoo Privacy Preserving in Sharin	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  nology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains Tan, and Zhiling Guo ng Economy: A Blockchain-based Multi-Agent Approach
2:00pm - 3:00pm  Deploying Blockchain Techr Katarina Stanoevska-Slabevs Information Monetization as Aseem Pahuja, Chuan-Hoo Privacy Preserving in Sharin Jinyu Zhang, Yumeng Yang	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  nology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains Tan, and Zhiling Guo ng Economy: A Blockchain-based Multi-Agent Approach , Rui Shi, and Jiaqi Yan
2:00pm - 3:00pm  Deploying Blockchain Techr Katarina Stanoevska-Slabeve Information Monetization as Aseem Pahuja, Chuan-Hoo Privacy Preserving in Sharin Jinyu Zhang, Yumeng Yang Open-source Governance M	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  nology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains Tan, and Zhiling Guo ng Economy: A Blockchain-based Multi-Agent Approach , Rui Shi, and Jiaqi Yan echanisms in Public Blockchain: The Case of the Ethereum Community's Decentralized
2:00pm - 3:00pm  Deploying Blockchain Techr Katarina Stanoevska-Slabeve Information Monetization as Aseem Pahuja, Chuan-Hoo Privacy Preserving in Sharin Jinyu Zhang, Yumeng Yang Open-source Governance M Autonomous Organization H	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  nology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains Tan, and Zhiling Guo ng Economy: A Blockchain-based Multi-Agent Approach , Rui Shi, and Jiaqi Yan echanisms in Public Blockchain: The Case of the Ethereum Community's Decentralized lack
2:00pm - 3:00pm  Deploying Blockchain Techn Katarina Stanoevska-Slabeve Information Monetization as Aseem Pahuja, Chuan-Hoo Terivacy Preserving in Sharin Jinyu Zhang, Yumeng Yang Open-source Governance M Autonomous Organization H Juho Lindman, Dorna Garag	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  nology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains Tan, and Zhiling Guo ang Economy: A Blockchain-based Multi-Agent Approach by, Rui Shi, and Jiaqi Yan echanisms in Public Blockchain: The Case of the Ethereum Community's Decentralized lack ol, and Oscar Nilsson
2:00pm - 3:00pm  Deploying Blockchain Techr Katarina Stanoevska-Slabeve Information Monetization as Aseem Pahuja, Chuan-Hoo Privacy Preserving in Sharin Jinyu Zhang, Yumeng Yang Open-source Governance M Autonomous Organization H	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  nology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains Tan, and Zhiling Guo ang Economy: A Blockchain-based Multi-Agent Approach by Rui Shi, and Jiaqi Yan sechanisms in Public Blockchain: The Case of the Ethereum Community's Decentralized lack ol, and Oscar Nilsson  Coffee Break
2:00pm - 3:00pm  Deploying Blockchain Techn Katarina Stanoevska-Slabeve Information Monetization as Aseem Pahuja, Chuan-Hoo Privacy Preserving in Sharin Jinyu Zhang, Yumeng Yang Open-source Governance M Autonomous Organization H Juho Lindman, Dorna Garag  3:00pm - 3:15pm	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  nology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains Tan, and Zhiling Guo ang Economy: A Blockchain-based Multi-Agent Approach by Rui Shi, and Jiaqi Yan sechanisms in Public Blockchain: The Case of the Ethereum Community's Decentralized lack ol, and Oscar Nilsson  Coffee Break Session 4. Innovative Application of Smart Contract
2:00pm - 3:00pm  Deploying Blockchain Techn Katarina Stanoevska-Slabeva Information Monetization as Aseem Pahuja, Chuan-Hoo Terivacy Preserving in Sharin Jinyu Zhang, Yumeng Yang Open-source Governance M Autonomous Organization H Juho Lindman, Dorna Garag  3:00pm - 3:15pm  3:15pm - 4:30pm	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  nology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains Tan, and Zhiling Guo ang Economy: A Blockchain-based Multi-Agent Approach by Rui Shi, and Jiaqi Yan sechanisms in Public Blockchain: The Case of the Ethereum Community's Decentralized stack ool, and Oscar Nilsson  Coffee Break Session 4. Innovative Application of Smart Contract Session Chair: Hemang Subramanian (Florida International University)
2:00pm - 3:00pm  Deploying Blockchain Techr Katarina Stanoevska-Slabeve Information Monetization as Aseem Pahuja, Chuan-Hoo Trivacy Preserving in Sharir Jinyu Zhang, Yumeng Yang Open-source Governance M Autonomous Organization H Juho Lindman, Dorna Garag 3:00pm - 3:15pm 3:15pm - 4:30pm  Smart Contract Based Securi	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  nology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains Tan, and Zhiling Guo ang Economy: A Blockchain-based Multi-Agent Approach by Rui Shi, and Jiaqi Yan sechanisms in Public Blockchain: The Case of the Ethereum Community's Decentralized lack ol, and Oscar Nilsson  Coffee Break Session 4. Innovative Application of Smart Contract
2:00pm - 3:00pm  Deploying Blockchain Techr Katarina Stanoevska-Slabeve Information Monetization as Aseem Pahuja, Chuan-Hoo Terivacy Preserving in Sharin Jinyu Zhang, Yumeng Yang Open-source Governance M Autonomous Organization H Juho Lindman, Dorna Garag  3:00pm - 3:15pm  3:15pm - 4:30pm  Smart Contract Based Secur Hemang Subramanian	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  nology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains Tan, and Zhiling Guo ag Economy: A Blockchain-based Multi-Agent Approach by Rui Shi, and Jiaqi Yan sechanisms in Public Blockchain: The Case of the Ethereum Community's Decentralized Stack and Oscar Nilsson  Coffee Break Session 4. Innovative Application of Smart Contract Session Chair: Hemang Subramanian (Florida International University)  Sity Tokens – An Illustration using the SAFE Instrument
2:00pm - 3:00pm  Deploying Blockchain Techr Katarina Stanoevska-Slabevs Information Monetization as Aseem Pahuja, Chuan-Hoo Trivacy Preserving in Sharin Jinyu Zhang, Yumeng Yang Open-source Governance M Autonomous Organization H Juho Lindman, Dorna Garag  3:00pm - 3:15pm  3:15pm - 4:30pm  Smart Contract Based Secur Hemang Subramanian Towards an Integrated Proces	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  nology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains Tan, and Zhiling Guo ag Economy: A Blockchain-based Multi-Agent Approach by Rui Shi, and Jiaqi Yan sechanisms in Public Blockchain: The Case of the Ethereum Community's Decentralized Stack sol, and Oscar Nilsson  Coffee Break Session 4. Innovative Application of Smart Contract Session Chair: Hemang Subramanian (Florida International University)  Sity Tokens – An Illustration using the SAFE Instrument  Sess Model for Smart Contract Engineering (Best Paper Nominee)
2:00pm - 3:00pm  Deploying Blockchain Techr Katarina Stanoevska-Slabevs Information Monetization as Aseem Pahuja, Chuan-Hoo Third Privacy Preserving in Sharin Jinyu Zhang, Yumeng Yang Open-source Governance M Autonomous Organization H Juho Lindman, Dorna Garag 3:00pm - 3:15pm 3:15pm - 4:30pm  Smart Contract Based Secur Hemang Subramanian Towards an Integrated Proce Christian Sillaber, Bernhard	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  sology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains Tan, and Zhiling Guo ag Economy: A Blockchain-based Multi-Agent Approach , Rui Shi, and Jiaqi Yan sechanisms in Public Blockchain: The Case of the Ethereum Community's Decentralized stack sol, and Oscar Nilsson  Coffee Break Session 4. Innovative Application of Smart Contract Session Chair: Hemang Subramanian (Florida International University) sity Tokens – An Illustration using the SAFE Instrument  sess Model for Smart Contract Engineering (Best Paper Nominee) Waltl, Horst Treiblmaier, Ulrich Gallersdörfer, and Michael Felderer
2:00pm - 3:00pm  Deploying Blockchain Techr Katarina Stanoevska-Slabevs Information Monetization as Aseem Pahuja, Chuan-Hoo Trivacy Preserving in Sharin Jinyu Zhang, Yumeng Yang Open-source Governance M Autonomous Organization H Juho Lindman, Dorna Garag  3:00pm - 3:15pm  3:15pm - 4:30pm  Smart Contract Based Secur Hemang Subramanian Towards an Integrated Proces	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  sology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains Tan, and Zhiling Guo ag Economy: A Blockchain-based Multi-Agent Approach , Rui Shi, and Jiaqi Yan sechanisms in Public Blockchain: The Case of the Ethereum Community's Decentralized stack sol, and Oscar Nilsson  Coffee Break Session 4. Innovative Application of Smart Contract Session Chair: Hemang Subramanian (Florida International University) sity Tokens – An Illustration using the SAFE Instrument  sess Model for Smart Contract Engineering (Best Paper Nominee) Waltl, Horst Treiblmaier, Ulrich Gallersdörfer, and Michael Felderer
2:00pm - 3:00pm  Deploying Blockchain Techr Katarina Stanoevska-Slabevs Information Monetization as Aseem Pahuja, Chuan-Hoo Trivacy Preserving in Sharin Jinyu Zhang, Yumeng Yang Open-source Governance M Autonomous Organization H Juho Lindman, Dorna Garag 3:00pm - 3:15pm 3:15pm - 4:30pm  Smart Contract Based Secur Hemang Subramanian Towards an Integrated Proce Christian Sillaber, Bernhard Business Applications for Et	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  sology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains Tan, and Zhiling Guo ag Economy: A Blockchain-based Multi-Agent Approach , Rui Shi, and Jiaqi Yan sechanisms in Public Blockchain: The Case of the Ethereum Community's Decentralized stack sol, and Oscar Nilsson  Coffee Break Session 4. Innovative Application of Smart Contract Session Chair: Hemang Subramanian (Florida International University) sity Tokens – An Illustration using the SAFE Instrument  sess Model for Smart Contract Engineering (Best Paper Nominee) Waltl, Horst Treiblmaier, Ulrich Gallersdörfer, and Michael Felderer
2:00pm - 3:00pm  Deploying Blockchain Techr Katarina Stanoevska-Slabevs Information Monetization as Aseem Pahuja, Chuan-Hoo Terivacy Preserving in Sharin Jinyu Zhang, Yumeng Yang Open-source Governance M Autonomous Organization H Juho Lindman, Dorna Garag 3:00pm - 3:15pm 3:15pm - 4:30pm  Smart Contract Based Secur Hemang Subramanian Towards an Integrated Proce Christian Sillaber, Bernhard Business Applications for Et Eduardo Salcedo IoT and Smart Contracts En Abdullah Albizri and Deniz	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  nology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains Tan, and Zhiling Guo ag Economy: A Blockchain-based Multi-Agent Approach by Rui Shi, and Jiaqi Yan  echanisms in Public Blockchain: The Case of the Ethereum Community's Decentralized lack bol, and Oscar Nilsson  Coffee Break Session 4. Innovative Application of Smart Contract Session Chair: Hemang Subramanian (Florida International University)  ity Tokens - An Illustration using the SAFE Instrument  ess Model for Smart Contract Engineering (Best Paper Nominee) Waltl, Horst Treiblmaier, Ulrich Gallersdörfer, and Michael Felderer hereum Smart Contracts  abled Blockchain: A Framework for Complete Provenance in Supply Chain Management Appelbaum
2:00pm - 3:00pm  Deploying Blockchain Techr Katarina Stanoevska-Slabev. Information Monetization as Aseem Pahuja, Chuan-Hoo Terivacy Preserving in Sharin Jinyu Zhang, Yumeng Yang Open-source Governance M Autonomous Organization H Juho Lindman, Dorna Garag  3:00pm - 3:15pm  3:15pm - 4:30pm  Smart Contract Based Secur Hemang Subramanian Towards an Integrated Proc. Christian Sillaber, Bernhard Business Applications for Et. Eduardo Salcedo IoT and Smart Contracts En. Abdullah Albizri and Deniz Decentralized Insurance Proc.	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  sology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains Tan, and Zhiling Guo and Economy: A Blockchain-based Multi-Agent Approach , Rui Shi, and Jiaqi Yan echanisms in Public Blockchain: The Case of the Ethereum Community's Decentralized lack sol, and Oscar Nilsson  Coffee Break Session 4. Innovative Application of Smart Contract Session Chair: Hemang Subramanian (Florida International University)  sity Tokens – An Illustration using the SAFE Instrument  ess Model for Smart Contract Engineering (Best Paper Nominee) Waltl, Horst Treiblmaier, Ulrich Gallersdörfer, and Michael Felderer thereum Smart Contracts  abled Blockchain: A Framework for Complete Provenance in Supply Chain Management Appelbaum aducts Using Smart Contracts and Tokens
2:00pm - 3:00pm  Deploying Blockchain Techr Katarina Stanoevska-Slabevs Information Monetization as Aseem Pahuja, Chuan-Hoo Terivacy Preserving in Sharin Jinyu Zhang, Yumeng Yang Open-source Governance M Autonomous Organization H Juho Lindman, Dorna Garag 3:00pm - 3:15pm 3:15pm - 4:30pm  Smart Contract Based Secur Hemang Subramanian Towards an Integrated Proce Christian Sillaber, Bernhard Business Applications for Et Eduardo Salcedo IoT and Smart Contracts En Abdullah Albizri and Deniz	Panelists: Akhil Kumar, Mary Lacity, Chris Westland, and J. Leon Zhao Coordinator: Shaokun Fan  Session 3. Mechanism Design of Blockchain and Smart Contract Session Chair: Juho Lindman (University of Gothenburg)  sology in the Music Streaming Industry - A Position Paper a, Claudia Loebbecke, and Alexandre Zreikat an Incentive Policy in Enterprise Blockchains Tan, and Zhiling Guo and Economy: A Blockchain-based Multi-Agent Approach , Rui Shi, and Jiaqi Yan echanisms in Public Blockchain: The Case of the Ethereum Community's Decentralized lack sol, and Oscar Nilsson  Coffee Break Session 4. Innovative Application of Smart Contract Session Chair: Hemang Subramanian (Florida International University)  sity Tokens – An Illustration using the SAFE Instrument  ess Model for Smart Contract Engineering (Best Paper Nominee) Waltl, Horst Treiblmaier, Ulrich Gallersdörfer, and Michael Felderer thereum Smart Contracts  abled Blockchain: A Framework for Complete Provenance in Supply Chain Management Appelbaum aducts Using Smart Contracts and Tokens