



**The Boris Mints Institute
for Strategic Policy Solutions to Global Challenges**
The Gershon H. Gordon Faculty of Social Sciences
Tel Aviv University



The 2018 BMI Conference

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Blockchain: The New Architecture of the World



Eve Guterman, Petr Pesov, Itai Sened





Blockchain: The New Architecture of the World

Executive Summary¹

The excitement around blockchains and distributed ledger technologies (DLTs) is not without merit. We are witnessing the dawn of what is being referred to as the Fourth Industrial Revolution, as we develop network technologies with the ability to fundamentally change the world around us and our dynamics within it. Most major institutions, from banks to state governments, have recognized the seemingly unstoppable momentum of this new wave and have decided to get on board rather than to fight the forces of nature (or networks).

As governments, industries, and private individuals make meaningful financial and technical investments in this new revolutionary technological innovation, it is imperative that we understand its potential, its limitations, and our own intentions at this crucial creative juncture. With the ability to create and manipulate new sources of wealth and value in society, data, digital assets, artificial intelligence and similar technological advancements, and the concomitant restructuring and even marginalization of traditional institutions of economic power, distributed ledgers offer the most potential for those with the very least. Cryptocurrencies and digital tokens are just the tip of the iceberg. More meaningful opportunities lie under

the surface. Applications in challenges to governance and the protection of intellectual property and human rights are nearly infinite and have the potential of being truly revolutionary if designed and implemented appropriately.

As BMI has pledged to address the major global challenges of our time, we found it to be our duty to aim the spotlight at this new emerging field. The purpose of our 2018 conference in Montenegro was to open a discourse, based on opinions and findings from academic, governmental, and industry professionals, around and about the potentials and limitations of blockchains to address pressing global issues of trust, equality, and ownership. It was our aim to navigate through the hype and to dive deep into the technology, its revolutionary potential, and the challenges surrounding implementation and mainstream adoption.

Institutions of any kind, and blockchains as an institutional technology par excellence, are a reflection of the intentions and interests of their designers. We are currently at a juncture wherein we have the power and the responsibility to maximize the potential of this new technology for greater equality, global development, and the protection of human rights worldwide.

¹ Presentations from the conference can be found at: <https://www.bmiglobalsolutions.org/single-post/2018/10/08/BMI-Conference-Blockchain---the-New-Architecture-of-the-World>



Distributed Ledger Technology and the Blockchain

Distributed ledger technology (DLT) refers to databases which are stored on multiples computers in a network. Each computer has as a constantly updating version of the ledger, thus eliminating the requirement of the central authority to regulate the information. At each interval, changes which are made to the ledger are updated by all participants in the network, and thus the newest allocation of information of resources is determined.

Blockchains are a type of DLT. They are unique in that the information stored on them is connected together using blocks which are secured with cryptography. A block contains a hash code which functions as its “fingerprint”

and also the hash code of the previous blocks in the chain. Actions can be coded and stored in the blocks, so that they are recorded in a way that is undisputed, since changing one block in the chain is impossible without altering the entire chain of consecutive blocks, which would require an unattainable amount of computer power.

While the main use of the blockchain technology is currently in the Bitcoin cryptocurrency, which was first launched in 2009 by mysterious creator Satoshi Nakamoto, further possible applications for policy makers and the general public will be expanded on in this report.



Why Blockchain, Why Now, and for Whom?

Prof. Katarina Adam, Department of Business Administration and Engineering, University of Applied Sciences, Berlin

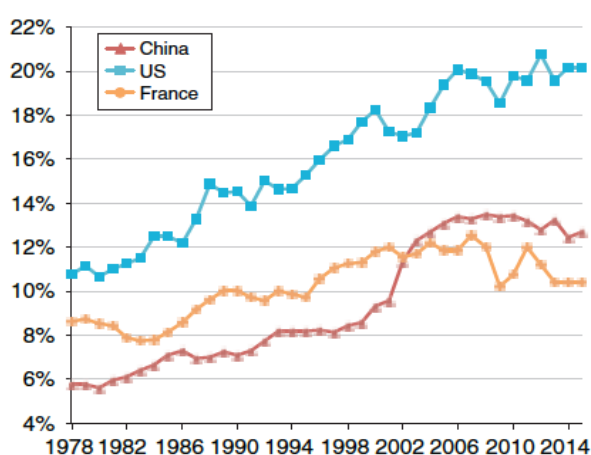
With rising global inequality and the erosion of confidence in elected leaders and national and international institutions, one of today's most pressing global issues is how to recreate trust in society. Trust not only between people and state institutions, but also between people and corporations, people and technology, and among individuals, particularly under the new, non-scarcity based conditions of the information society. Blockchains and other distributed ledger technologies are playing an active role in this revolution via decentralized, peer-to-peer, encrypted information storage, built to digitize trust and protect individual privacy and data ownership.

With a rapidly widening wealth gap between the top 1% of the population and the rest, questions of redistribution and the state's capacity to provide basic services to promote upward mobility and incentivize productivity have come to the foreground – begging new approaches and solutions to the welfare state and the observable weakening of the middle class. Who will finance the continuation of social services and how?

What will bring about a redistribution of value in society as we move away from tangible assets such as natural resources and financial capital, toward a world dictated by the heretofore-intangible assets of information and human capital?

The development of decentralized and immutable ledgers has heralded a new age of digital institutions with a much wider application than the 'golden child' that is cryptocurrency. Beyond its potential to streamline economic exchange (via identity verification and certification, smart contracts, land registries, etc.) and increase efficiency on both the supply and demand sides, DLTs have opened the door to new methods of economic coordination and institutional organization in the age of information capital such as tokenization and decentralized ownership of data, amongst others. As an immutable, decentralized public ledger, DLTs offer new tools and structures for solving the age-old problems of capitalist economies – from the cost of manufacturing trust and accountability, to more efficient governance and service provision.

Panel A. Top 1% income share



Panel B. Bottom 50% income share

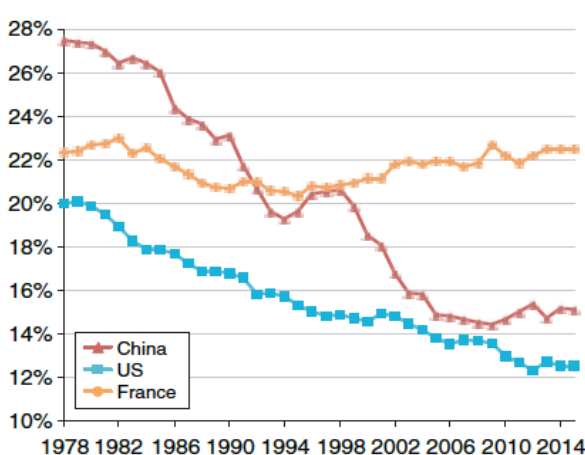
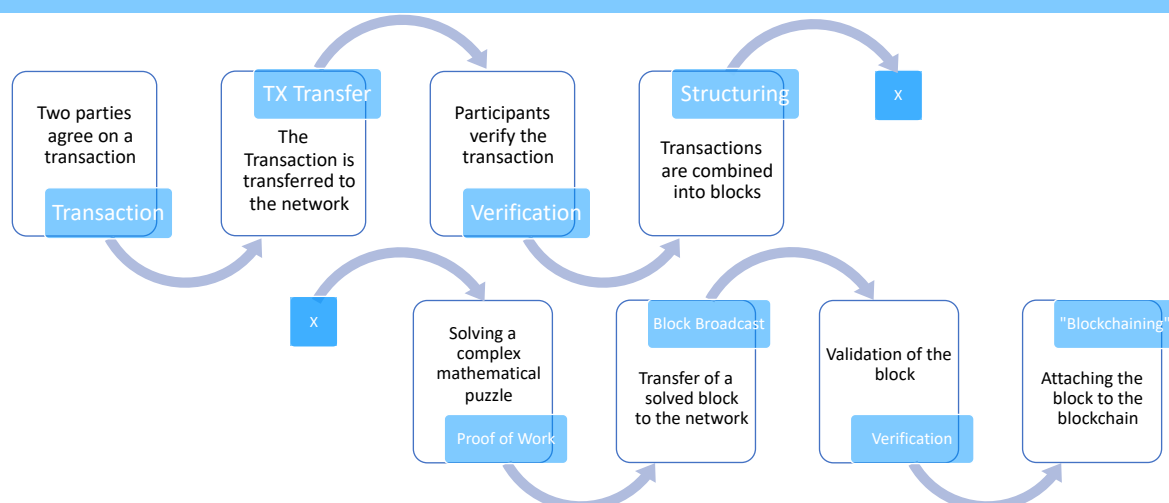


FIGURE 1. DISTRIBUTION OF INCOME IN CHINA, UNITED STATES, AND FRANCE, 1978–2015

Source: Facundo Alexandro, Lucas Chancel, Thomas Piketty, Emmanuel Saez, Gabriel Zucman, 2017



Transaction flow



(Deloitte Blockchain Institute, 2017)

The Promise of the Distributed Ledger – What is and what is to come?

Blockchain is a new and, already generally thought to be, quite a promising technology. Many think it may lead most innovations in the future by acting as the common underlying digital platform. This technology offers the most promise in the areas of information transfer and security, allowing people to conduct exchanges without a third-party intermediary, and providing unmatched digital security and privacy, practically eliminating the fear of information theft. Yet, blockchains still present many challenges, given the inchoate nature of the technology.

Simply defined, a blockchain is a database that can host a wider scope of uses and applications than was previously imagined. Could blockchains offer a glimpse into the new architecture of the world? In order to understand blockchains and distributed ledger technologies, we need to understand Moore's law², which describes blockchains as an exponentially growing system of smaller technologies, containing the power of the technical environment in which we exist.

The internet has facilitated a vast increase in exchange, accessible by people all over the world, all the time. The world is already heading towards a new model for the facilitation of economic exchange – the "platform economy" – a new way of doing business, connecting, collaborating and scaling. There exists an inherent distrust

in, or skepticism of, technology due to security concerns, fraud, and corruption, but what if we could overcome distrust *with* technology, using code to eliminate human error and automate trust between users? Lack of trust in economic exchange is one of the primary reasons for high transaction costs and inefficient distribution of resources. Blockchains' inherent transparency and privacy address some of these issues. One of the most popular use cases – Bitcoin (and other cryptocurrencies) – were born due to the failure of classic institutions and resulted in the facilitation of direct exchange without a third-party. Bitcoin was not the first, only the most popular, and we see a critical mass of innovation and creative uses for digital tokens and cryptocurrencies.

Due to the nascent nature of this research area, many elements are still poorly defined and it is in our best interest to target our research efforts to understand this transformative technology and its uses and applications.

Beyond cryptocurrencies, the most well-developed use cases involve smart contracts. Small contracts are automated digital contracts between two parties, operating on a blockchain, making any digital transaction both fast and secure. Blockchains are rapidly evolving beyond financial services to security, banking, insurance, communications, manufacturing, retail, governance, and transportation. Attributes of distributed ledger technologies are: peer-to-peer, real-time, decentralized, distributed, irreversible, uncensorable, secure, and open-

² See Prof. Adam's presentation.



source. Some of the corresponding challenges include size, scalability, interoperability, data protection, well defined use cases, and issues of centralization.

Many national governments are interested in implementing blockchain based applications for the provision of social services and secure record keeping. Estonia was the first country to establish an 'e-government' system, using a private blockchain to implement digital record keeping, personal data privacy and state wide digitization. Malta is positioning itself as 'The Blockchain Island', being the first country to craft and approve statewide legislation for DLT and digital assets. In Luxembourg, the banking industry is opening up to blockchain and the first Crypto Bank has

filed for a license in Zurich, Switzerland. Blockchain is here to stay, and even if some countries are still skeptical – it will be difficult to fight the tide. As we move into the future, it is imperative to plan for a more sustainable technological future.

Blockchains require significant energy use and therefore clean energy solutions are essential in supporting this burgeoning blockchain revolution.

How far does this potential reach? Can DLTs solve some of our fundamental global problems like poverty and resource allocation? Where are we now, and where do we want to go?



The Time for Institutional Innovation is Now

New Wealth, Old Poverty: The Need for New Institutional Mechanisms

Prof. Itai Sened, Head of BMI; Founding Head, School of Social and Policy Studies, TAU

Turning an eye on the global economic state of affairs, economic inequality is visibly on the rise – the rich have gotten richer while the poor have not gotten any better. The welfare state was created to support the middle class by subsidizing services such as health insurance, public goods, education, pension, home ownership and labor benefits.

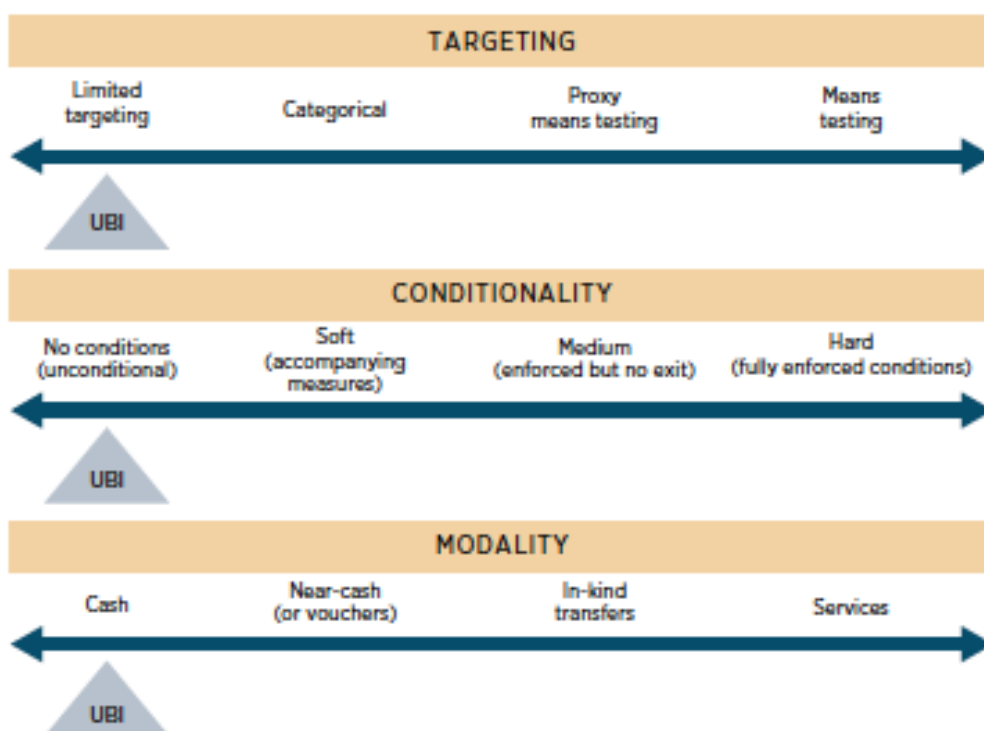
In recent years, physical assets like real estate were thought to support economic growth and protect the middle and lower-middle classes in their efforts to accumulate capital. Now, however, society's most valuable assets are intangible – human capital and ideas represent the largest value added in the global economy, but our international public policy has failed to adjust to this new understanding. GDP is a measure of the return on real assets, and as such hovers somewhere around 5-6% of the total value of

national assets. The actual total national wealth, therefore, should be approximately 20 times that of GDP. It turns out, however, that almost invariably across nations, the actual tangible amount is two to six times the GDP. So something is missing and this omitted variable, or residual, has been attributed by World Bank reports to intangible assets, human capital and intangible capital.

According to the *World Bank Report 2018: The New Wealth of Nations*, this intangible residual now constitutes as much as 60-80% of the total wealth of developed nations and yet it is still ill-defined and poorly understood by economists and policy makers.

Using the lifetime income approach to separate human capital from intangible capital, in a study of 13 high income countries, human capital accounted for more than 60%

FIGURE 6.2 A universal basic income (UBI) has limited targeting, no conditions, and is paid in cash to recipients



Source: Djankov et. al. WDR 2019. P. 107



of national wealth (four times that of produced capital and 15 times that of natural capital). This still leaves 25% of national wealth unaccounted for by standard models. This residual intangible wealth is made up of institutional quality and social capital, those factors which augment the capacity of other types of capital to facilitate consumption in the future (Hamilton and Liu, 2013).

What we draw from these statistics, as policy makers, is that national investment should be made in the highest value sectors with the highest long run return. Given the increasing value of human and intangible capital, our strategies quite literally need to be reversed – focus should be on investing in human capital and social institutions from an early age to guarantee maximum growth and contribution over time (early childhood education, for example), rather than providing most of the government assistance in the later stages of life such as in care for the elderly.

Low-income countries need to be supported with strong investment in human capital and social institutions to ensure long run growth, otherwise the global economy will continue towards increasing instability. One of the economic tools being discussed is the UBI – *universal basic income* – a basic resource aimed at educating children and funding basic needs. A UBI serves as a sort of investment vehicle for human capital. There is no doubt that programs of this nature could have an enormous impact on global development, but the question, of course, is 'How do we fund it?' Perhaps blockchain holds the solution to this question in its ability to create and manage value in a new way.



Is Blockchain the Institutional Magic Bullet?

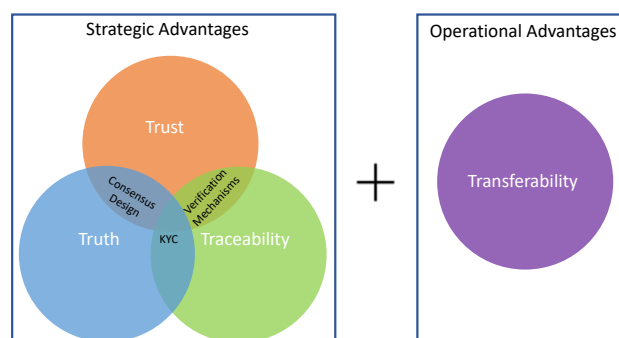
Ms. Eve Guterman, BMI Fellow

Since the policy prescriptions of the Washington Consensus in the 1990's, it has become clear that the 'traditional wisdom' championing free markets and property rights as the sole factors supporting economic growth, has run its course. Low transaction costs and clearly defined property rights have in no way been shown to be the sole factors impacting the efficient allocation and management of scarce resources, nor could they facilitate ideal resource allocation even at their most efficient arrangement. Rising global inequality and the erosion of trust in our democracies are clear indicators that the institutions of capitalism are not enough to grow the world, and certainly not in an equal or humanitarian way. We are no closer to solving the basic problems of economic theory, or the five giants of want, disease, ignorance, squalor and idleness than we were one hundred years ago.

Blockchain and other distributed ledger technologies offer a new institutional framework for rethinking not only the costs associated with exchange in the global capitalist system and the corresponding incentives, but also for reforming our understanding of value creation, capital accumulation, and our relationship with land, labor and capital, as we move into what is being called "The Fourth Industrial Revolution", or the transition to the Sharing Economy. Unlike digitization and the economic impact of the internet, in its ability to coordinate and digitize economic exchange, DLTs offer a new way to create, distribute, and verify value according to use and utility. The main tenants of the distributed ledger – decentralized algorithms, tokenization, smart contracts, and the ability

to remove intermediaries by manufacturing trust – set it apart from a general purpose technology, like the internet, and put it into a category of institutions with the potential to upend our current system. Blockchains and DLTs, if used properly, may indeed offer creative and meaningful solutions to the determinant institutional factors and unsolved problems in economic theory, such as Transaction Costs, Property Rights, Collective Action and the Tragedy of the Commons (Ostrom 1990), Collective Choice and social welfare/voting theory (Sened 1997), and issues of Trust and Authentication in an increasingly information driven world. By substituting trust with code, we have the potential to eliminate human error and to create consensus among individuals without falling prey to traditional problems of political bargaining and social choice.

Institutions, however, are only as good as their designers, and the methods of implementation of this new technology will define the new incentives it creates for users and the impact it has on our economy and our government, as well as our sovereignty, privacy, and personal agency.





➤ A Unique Tool for Global Problems (and Problems of Globalization)

Application of Blockchain technologies for the UN SDGs – Georg Eder, Founder, The Vienna International Development Network

The United Nations Development Program recently established a committee for blockchain technologies and their application to the implementation of the UN Sustainable Development Goals (SDGs). The aim of this committee is to facilitate and encourage the use of blockchain technologies as a tool for creating social welfare and solving some of the world's most pressing issues. Strategic advantages of blockchain technologies, built directly into its code, include trust, truth, traceability and transferability via consensus, verification, and hack proof KYC (Know Your Customer). It is for this reason that blockchain technologies are seen as having the potential to contribute significant innovations to some of the most pressing global issues (as defined by the UNSDGs).

The best developed solutions and use cases are consistent with developments in the private sector as well. Some of the most interesting applications include using cryptocurrencies and digital wallets for lower cost remittances via the elimination of third parties; land registries based on smart contracts to protect vulnerable populations and ease transactions and access to credit based on land ownership; and supply chain management to guarantee provenance of materials, product transparency and accountability. Beyond poverty alleviation and empowerment in the developing world, blockchains offer an interesting new solution for the management of common pool resources and dealing with issues of climate change. Though these use cases are still in their nascent phases, there is great hope for the potential of blockchain-based property rights that incentivize sustainable management of resources.

Blockchain Advantages and the SDGs

SDGs	Common Resource			Trust Creation Criteria
	Traceability	Management	Transferability	
SDG 1: No Poverty	x			2
SDG 2: Zero Hunger		x	x	3
SDG 3: Good Health and Well-Being	x	x	x	3
SDG 4: Quality Education			x	1
SDG 5: Gender Equality		x		1
SDG 6: Clean Water and Sanitation	x		x	2
SDG 7: Affordable and Clean Energy	x	x	x	3
SDG 8: Decent Work and Economic Growth	x		x	2
SDG 9: Industry, Innovation and Infrastructure	x	x	x	4
SDG 10: Reduced Inequalities	x	x	x	2
SDG 11: Sustainable Cities and Communities		x		1
SDG 12: Responsible Consumption and Production	x	x	x	4
SDG 13: Climate Action	x	x	x	4
SDG 14: Life Below Water	x	x		3
SDG 15: Life on Land	x	x		2
SDG 16: Peace, Justice and Strong Institutions				1
SDG 17: Partnership for the Goals				1

Eder, 2018

Applications and the SDGs

SDGs	Number of blockchain applications				
	Finance	Business	Public	Climate	Total
SDG 1: No Poverty	1	2	1	1	5
SDG 2: Zero Hunger	1	0	1	2	4
SDG 3: Good Health and Well-being	0	2	2	2	6
SDG 4: Quality Education	0	0	0	1	1
SDG 5: Gender Equality	1	1	2	0	4
SDG 6: Clean Water and Sanitation	0	0	0	1	1
SDG 7: Affordable and Clean Energy	0	0	0	3	3
SDG 8: Decent Work and Economic Growth	4	6	2	1	13
SDG 9: Industry, Innovation and Infrastructure	5	4	0	3	12
SDG 10: Reduced Inequalities	3	4	5	2	14
SDG 11: Sustainable Cities and Communities	0	0	3	4	7
SDG 12: Responsible Consumption & Production	0	1	0	5	6
SDG 13: Climate Action	0	0	0	6	6
SDG 14: Life Below Water	0	0	0	1	1
SDG 15: Life on Land	0	0	1	1	2
SDG 16: Peace, Justice and Strong Institutions	2	1	5	1	9
SDG 17: Partnerships for the Goals	0	0	3	3	6
Total	17	21	25	37	100

From Roccamore, Amellina, 2018

(Georg Eder, 2018)



The Key is Education, The Future is Code

Yael Rozencwajg, CEO, Blockchain Israel

The main goal of any blockchain organization in the current climate is to educate people on how the technology can help them and impact their lives directly. There are a lot of startups attempting to solve a tremendous number of important issues, however they don't necessarily know how to bring it to the attention of the appropriate organizations or how to implement their solutions. This is currently the most pressing issue, as we attempt to implement blockchain solutions in a number of sectors. Our biggest challenge is empowering people with education about the technology and pairing those educated users with the customers and target audiences who require their services.

Organizations like Blockchain Israel, a domestic community of blockchain programmers, aim to make blockchain solutions fully accessible to companies and startups by

providing a range of award-winning products and by opening new channels to connect people even more, with an active community of over 2,000 members and over 400 blockchain startups. Blockchain is only useful in very big infrastructural sectors, and therefore should not be applied to every idea. It is essential, therefore, to distinguish between those things which would benefit from the blockchain and those that would not. The four major challenges currently being addressed by the technology are: Social Responsibility (ex. humanitarian health); Global Resource Distribution (ex. waste collection); Autonomous Systems (ex. security) and Non-Profit Management (ex. donations, aid distribution).

Following that idea, several examples of active use cases were presented and discussed in the conference.

A Familiar Use Case – Higher Education in Montenegro

Presented by Dr. Milica Vukotic, Dean of the Information Systems Faculty, UDG

Education is an excellent study case for blockchain based applications and Montenegro is considering a number of different cases and implementations to maximize the provision of educational services using this new technology. Here are some possible variations on how to use blockchains in order to improve the education sector:

1. Requests from other educational institutions for verification of diplomas, grades and transcripts takes a lot of time and manpower, and putting it on a blockchain would make the process more transparent and automated. When scanning the code of a diploma, employers will be able to see the digital record of the potential future employee without requiring hard copies and entire administrative departments.
2. Easing the communication between the students, universities and the business sector. Identity management is a very big issue, and is one of the services which stand to benefit a great deal from DLTs. Cyber security is a major issue for any centralized institution storing personal data, particularly because centralized systems are primed for hacking. Blockchain offers a more secure way of storing information with less risk of hacking and information theft.
3. Blockchain helps avoid tax evasion and fraud through total transparency and is therefore very attractive for governments and organizations.

Fraud Prevention and Authentication – Another domestic use case

TagItWine pilot: a blockchain enabled solution for counterfeit-prevention in wine industry Presented by Prof. Tomo Popovic, Faculty of Engineering, UDG

Wine fraud is a very serious problem – between one and five percent of the European wine market is counterfeit. In Asia that number is as high as 50%! TagItWine brings brand protection and digital product and lifecycle management. The TagItWine system is based on H2020 Tag-it-Smart. The simple process begins by scanning the QR code on the wine bottle to get its unique information. The project is being done in collaboration with DunavNET, Durst, and VTT. Every bottle has its own digital number that can be recorded and tracked through the entire supply chain. Though the project started without blockchain, it presented itself as a good use case for the blockchain platform, by adding a level of protection nonetheless. The cloud

stores a variety of data which could be protected using a blockchain, and distributed throughout the database. There are a few potential challenges if the system is to be put on a blockchain, such as supportive regulation, transaction speed, performance, lack of standardization, interoperability, infrastructure implementation and lack of skillful workforce, amongst other difficulties. On the other hand, putting it on a blockchain would reduce risk surrounding information safety, and optimize the supply chain, increasing the integrity and transparency of the product. The underlying technology is not as important for the users if it is proven to work with stability.



(Prof. Popovic, 2018)



Malta – A Light unto Digital Nations

Presented by Dr. Joshua Ellul, Dr. Ian Gauci, Dr. Wayne Pisani – University of Malta

As a self-ascribed world leader in blockchain technologies, government implementation and legislation crafting, Malta is setting itself apart as the first state to embrace a national position on blockchain implementation and to design the corresponding legislation and regulation to make it a reality. The most important factor in rolling out a national blockchain strategy is the ability to educate policy-makers, industry professionals, students and the general public to guarantee a well-versed discourse and a deep understanding of the technology and its potential. It is for this reason that the University of Malta has established the first ever academic Centre for Distributed Ledger Technologies, offering graduate degrees in the new multidisciplinary field of distributed ledger technologies. The University of Malta aims to provide training across the board to encourage national participation and adoption, as well as to act as an international research center for blockchain development. This burgeoning field is at the nexus of law, policy, economics, finance, and computer

science. The University of Malta aims to create a new generation of experts in all the fields associated with DLTs in an effort to establish a well-educated and well-trained modern workforce to support 'The Blockchain Island'.

Also essential is the creation of a trusted legal authority, tasked with oversight of the new industry and its national roll-out, designed to show that the system is safe for users and to create a standard certification for the technology and its use cases. The regulatory process is a long and arduous one, requiring the establishment of financial guidelines, exchanges and markets, as well as financial legislation and strict regulation of ICOs and a new tax code, along with the definition and classification of new digital assets.

There is a long way to go, however, Malta is not shying away from the task at hand and will certainly act as a beacon to other nations eager to adopt similar programs.



➤ Conclusions and Future Research Aims

Given widespread interest and investment in blockchain technologies across sectors and industries, it is safe to say that distributed ledgers will stand the test of time, or at the very least herald in a new age of digital institutions and incentives. It therefore behooves us, as students, researchers, teachers, and policy makers to ride this wave to its fullest extent with our eyes wide open. Shying away from these developments will only guarantee that the new world order will be written without thoughtful analysis, contribution and debate.

Given the inchoate nature of the technology and its potential applications, the most important element at present is the essential role of education at this critical junction. Blockchain is not just for computer scientists and coders, and its development requires experts and contributions from thinkers across the board – from the fields of law, economics, finance, anthropology, sociology, public policy, labor and many more. It is imperative that we research and teach these ideas in an interdisciplinary manner to ensure maximum contribution of intelligent thought and analysis.

As with all institutions, efficiency, utility and function are factors of the institutional design and implementation. The new blockchain institutions and applications must be well-defined, well-crafted, and born of well-studied use cases and pilots. It is our responsibility to write these applications with the users and outcomes in mind and to implement them responsibly with corresponding legislation and regulation. The private sector, government, academia and civil servants/activists must work together to strategically maximize this new technology and to implement it responsibly.

As such, the Boris Mints Institute is excited to announce the formation of a new research lab, in cooperation with the University of Malta's Centre for Distributed Ledger Technologies, for the application of DLTs to solve major global issues of poverty, inequality, and the provision of social services. This lab will work in conjunction with Boris Mints Institute at Tel Aviv University and the University of Malta's new Centre for DLTs to share resources and research, conduct student exchanges, and offer workshops and conferences, all with the intention of working together toward creative solutions to the world's most pressing problems.



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Agenda

Regent Hotel, Porto Montenegro, October 3-5, 2018

Wednesday, 3.10.18

- 12:00-15:00 Arrival to Montenegro
- 15:00 **BMI Board Meeting**
- 16:00 Coffee Break
- 16:15 **BMI Steering committee – Business Meeting**
- 17:00 **Keynote Speaker:**
Prof. Katarina Adam, Department of Business Administration and Engineering, University of Applied Sciences, Berlin
Blockchain Technology – the official invitation of being and staying curious!
- 20:00 Opening Dinner – Hotel

Thursday, 4.10.18

- 08:00 Breakfast – Hotel
- 09:00 **Symposium: Blockchain – Present and Future**
Convener: **Dr. Boris Mints**, President of BMI
- 09:10 **Opening Notes**
Prof. Itai Sened, Head, BMI; Founding Head, School of Social and Policy Studies, TAU
Old Poverty, New Poverty; Old Wealth, New Wealth: The Need for New Institutional Mechanisms
- 09:40 **Opening Lecture**
Mr. Georg Eder, Founder, The Vienna International Development Network
Application of Blockchain technologies for the UN SDGs
- 10:00 **Skype Session**
Dr. Joshua Ellul, Department of Computer Science, University of Malta
Dr. Ian Gauci, GTG Advocates, Malta
Dr. Wayne Pisani, Grant Thornton, Malta
- 10:45 Coffee Break
- 11:00 **Panel #1: Implementations of Blockchain technology in Social Institutions**
Introductory Remarks: **Ms. Eve Guterman**, BMI Fellow, Tel Aviv University

- Moderator: **Mr. Igor Luksic**, Former Prime Minister, Montenegro; BMI Board Member
- Dr. Milicia Vukotic**, Dean of the Information Systems Faculty, UDG
- Ms. Yael Rozencwajg**, CEO, Blockchain Israel
- 12:00 Discussion
- 12:30 Lunch – Hotel
- 13:30 Departure from the hotel
- 16:00 **Meeting with the President of Montenegro, Hon. Milo Djukanovic**
- 18:00 **Visit to Cetinje and Podgorica and a meeting at UDG**
- 20:00 Dinner – Stari Mlini Restaurant

Friday, 5.10.18

- 08:00 Breakfast – Hotel
- 09:00 **Hon. Vaclav Klaus**, Co- Founder of the Václav Klaus Institute, former President of the Czech Republic
Notes for Montenegro: State-building vs. EU Membership
- 09:30 **Panel #2: Challenges of Blockchain and E governance Application**
Keynote Remarks:
Mrs. Dragica Sekulic, Minister of Economy, Montenegro
Prof. Tomo Popovic, Faculty of Engineering, UDG
TagItWine pilot project based on H2020 TagItSmart technology: a blockchain enabled solution for counterfeit-prevention in wine industry
Mr. Dejan Abazovic, State Secretary in charge of E-GOV, Public Administration Ministry, Montenegro
Prof. Milorad Katnic, Chairman of Societe Generale, Montenegro
- 10:15 Coffee Break
- 10:30 Discussion
- 12:00 Departure



➤ List of Participants (alphabetical order)

1. **Mr. Dejan Abazovic**, State Secretary in charge of E-GOV, Public Administration Ministry, Montenegro
2. **Prof. Katarina Adam**, Department of Business Administration and Engineering, University of Applied Sciences, Berlin
3. **Ms. Joelle Aflalo**, Member of BMI Advisory Board; Founding Member, Matanel Foundation
4. **Ms. Natalia Borovik**, Executive Manager of the Mints Family Charitable Foundation
5. **Prof. Armen Darbinian**, Member of BMI Advisory Board; Rector of the Russian-Armenian State University and former Prime-Minister of Armenia
6. **Prof. Sergei K. Dubinin**, Member of BMI Advisory Board, Chairman of Supervisory Council, Chairman of the Remuneration and HR Committee, JSC-VTB Bank
7. **Mr. Georg Eder**, Founder, The Vienna International Development Network
8. **Mrs. Ayelet Fishman**, Adv., BMI Director of Research and Development
9. **Ms. Eve Guterman**, BMI Fellow, Tel Aviv University
10. **Prof. Milorad Katnic**, Chairman of Societe Generale, Montenegro
11. **Mr. Václav Klaus**, Member of BMI Advisory Board; Co- Founder of the Václav Klaus Institute, former President of the Czech Republic
12. **Mr. Igor Luksic**, Member of BMI Advisory Board, former Prime Minister, Montenegro,
13. **Mr. Milika Mirkovic**, Ph.D. student, UDG
14. **Dr. Boris Mints**, BMI Founder and President
15. **Dr. Alexander Pesov**, Representative of BMI President
16. **Mr. Petr Pesov**, BMI Team, Tel Aviv University
17. **Prof. Tomo Popovic**, Faculty of Engineering, UDG
18. **Prof. Itamar Rabinovich**, Member of BMI Advisory Board; Founder and President of the Israel Institute; Former Ambassador of Israel to USA and President Emeritus of Tel Aviv University
19. **Mr. Seppo Remes**, Member of BMI Advisory Board; Co-Founder and Chairman of EOS Russia
20. **Ms. Yael Rozencwajg**, CEO, Blockchain Israel
21. **Mr. Steven Sandi**, Ph.D. student, UDG
22. **Mrs. Dragica Sekulic**, Minister of Economy, Montenegro
23. **Prof. Itai Sened**, Head of BMI; Founding Chair, School of Social Studies, Tel Aviv University
24. **Dr. Milicia Vukotic**, Dean of the Information Systems Faculty, UDG



**The Boris Mints Institute for Strategic Policy
Solutions to Global Challenges**

Tel Aviv University

POB 39040, Ramat Aviv, 6997801, Tel Aviv, Israel



Email bminstitute@tauex.tau.ac.il

Tel +972-3-6408836

Fax +972-3-6407382

<http://www.bmiglobalsolutions.org>