Report on 'Blockchains for Social Good'

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Preamble

This one-day policy workshop took place in Brussels on June 21st, 2016 organized by EPSC (European Political Strategy Center), DG CONNECT (Communications Networks, Content and Technology Directorate-General), DG FISMA (Financial Stability, Financial Services and Capital Markets Union Directorate-General), DG GROW (Internal Market, Industry, Entrepreneurship and SMEs Directorate-General) and the JRC (Joint Research Centre). Its objectives were to discuss current and future activities in the field of Distributed Ledger Technology (DLT), their potential for social good, and how the European Commission could contribute to these developments.

Presentations and audio recordings can be found at
https://ec.europa.eu/digital-single-market/en/news/blockchains-social-good

Speakers and panel members (in order of intervention)

Markku Markkula, President of European Committee of Regions

Mário Campolargo, Director Future Networks, DG Communications Networks, Content and Technology

Primavera De Filippi, CNRS, Research Fellow at Berkman Center For Internet & Society

Aaron van Wirdum, Bitcoin Magazine

Brett Scott, Alternative Finance Explorer, Fellow of The Finance Innovation Lab

Jessi Baker, blockchains for tracing provenance

Matthew Golby-Kirk, IBM Global Blockchain Labs Enablement

James Hazard, Common Accord

Amin Rafiee, Bitnation

Robert Madelin, Hors Classe Adviser "Senior Adviser for Innovation", EPSC

Jakob von Weizsäcker, Member of European Parliament

Philippe Dewost, Caisse Des Dépôts, France

Philip Boucher, Policy analyst, European Parliamentary Research Service

Pindar Wong, Chair of ScalingBitcoin.org

Catherine Mulligan, Imperial College, UK report on DLT beyond blockchains

Martin Koeppelmann, blockchains for social institutions

Marco Sachy, DLT Designer, Dyne.org Foundation

Fabrizio Sestini, Senior Expert Digital Social Innovation, European Commission DG CONNECT

Susana Nascimento, Policy Analyst - Foresight, Behavioural Insights and Design for Policy, JRC

Joachim Schwerin, Principal Economist, DG GROW

Introduction

This brief report summarizes the speakers' stance, the questions from the audience and the discussions, highlighting the most debated points with the different expressed views.

Vision

DLT offers the possibility of **new forms of human collaboration and processes**. It can change the way our society is organized by enabling decentralized education, decentralized data governance, open innovation, or privacy by design businesses.

It might produce a profound change in the way citizens see their relation with digital technologies, as citizens would be empowered to become active participants in a new socio-economic ecosystem: a single EU digital market. This changes current centralized operation services by crowd-sourced organizations which favor **keeping the value of data where it is produced**: with the citizens, and potentially redistributing it.

Applications

The properties of the technology include: decentralization of data and code, transparency, accreditation, data integrity, and authenticity. These properties underpin the potential of the technology for social good as several applications and projects already showcase beyond its use in financial services explored by more than 30 banks. For instance, instantaneous verification of the authenticity of university diplomas, public registry of government records, or smart locks (connecting with the IoT).

New applications include blockchain-based social networks, car-sharing, markets, IoT, tracing product provenance, decentralized production processes, local currencies. The areas where the technology is more specifically applicable are those involving **identity, money or reputation**. Applications for mutual support without intermediaries brings new possibilities to deal with the situation of refugees or of people at the edge of society.

Distributed ledgers could also open the possibility of new standards for interoperability in the supply chain by means of open standards on transactions: instead of having a single ledger per partner they could potentially share the ledger technology.

E-Governance versus regulatory policies

We are witnessing a value-shift from centralized (authority) to decentralized (community-based) applications. One of the main disruptive features of DLT is precisely **disintermediation**: it takes away power from the governments and centralized entities. Hence, as the community may need to be in charge of applying the law, this opens the question on what are the policy and regulatory measures that need to be implemented and by whom (users, software producers and miners). The debate showed reluctance to strong regulatory measures given the current stage of the technology. We should mostly focus on **promoting innovation**. Also, by being mild on regulation the EU might attract players from countries overseas with stronger regulatory systems (e.g. the US).

The need for regulation seems clear in some cases, e.g. when there are cross border systems that require taxation, or when people take risks investing in cryptocurrencies. However, the current position of the EU Parliament is that it is **too early to regulate**, as we don't know what the main applications of the technology will be. The current position is 'wait and see' whilst creating a task force to monitor the developments. Some concerns are raised against this position and suggestions are made to do some **prospective analysis** of what may happen in the near future. There is a report under preparation by the European Parliamentary Research service on the legal, social and ethical implications of BC.

Citizens' governance can be promoted by representing their interactions as documents on BC. Each event could be recorded as text that could then be analyzed in a distributed way moving the decision points closer to the individual; it could be a path for distributed law. However, some applications like anonymous payments can be good on one hand for social inclusion but can be also used for fraudulent activities. Prevention of fraud should come first before data protection. The use of the technology across different legal systems needs to be analyzed.

The discussion on governance and regulation has to involve all stakeholders, including citizens –main actors in the new decentralized paradigm, so that all views are taken into consideration. The general view is that we should **look more into governance than regulation**. Nonetheless, as the technology undermines classical institutions there is a need to watch the current power structures and their reactions.

Multidisciplinarity

We need to involve researchers from sociology and philosophy, as **technology is not neutral**, it is shaped by our choices, by our political, economical, and cultural views. In particular, social good has a clear moral and ethical dimension. For instance, how to protect people from market competition? How to find ways of interaction not based on economic incentives? Or, how to protect the right to network cooperation? E.g. this new technology might facilitate tracking of product provenance to understand the value chain and the social conditions of the involved participants so that final consumers can take informed decisions. It may also open new possibilities for co-operative organization.

Incentives (economic or otherwise) to use DLT applications need to be studied as users care about cheaper and more secure systems independently of their decentralized nature. Maintaining some crytocurrency (there are 3000+ of those) associated to applications in order to incentivize adoption seems important.

There was a common agreement that technology **ethics** need to be included on the education systems in order to prepare citizens for new waves of technologies affecting our social lives.

In this sense, the research has to be clearly multidisciplinary, specially focusing on the research on values and technology, e.g. a completely transparent society may not be desirable, we need to guarantee the right to be forgotten.

Research and Innovation Opportunities

As the private sector is already investing in applications with a lot of ROIs, there is a need to focus the funding on social good applications to improve people's lives.

The technology is facing a number of **limiting factors** that need to be overcome, in particular, cost, efficiency, scalability and security. New and more efficient (energy sustainable) consensus methods should be explored beyond the notion of proof-of-work to improve the efficiency of the technology; especially when moving into DLT applications over large documents (e.g. pictures, videos).

This technology brings **risks** that need to be understood better. As we move from the rule of law to the rule of code, the use of code (e.g. smart contracts) shows some potential pitfalls in terms of security, as the 60M$ stolen from the DAO decentralized investment fund community recently showed. Some voices are raised framing the new technological revolution related to the shift **from sharing data to sharing algorithms**.

The limitations and pitfalls have to be overcome in order to clearly compete with current centralized applications that overall work very efficiently. Better co-ordination of existing projects and initiatives should be pursued in this respect. Also, research on autonomy is important, specially as DLT will most probably be used to support machine-to-machine interactions.

The need for a **strong EU-led research initiative** was advocated, with the following characteristics: openness to small, bottom up ideas; networking the emerging new EU teams in the field; multidisciplinary; and including both **research** projects on fundamental issues and **innovation** actions piloting new social applications of blockchains, which could prove useful also as regulatory sandboxes for these new governance models.

The workshop closed with a general feeling that BC technology opens new possibilities for making ICT closer to people, empowering their decision-making processes.